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# GUIDELINES FOR THE DEVELOPMENT AND IMPLEMENTATION OF A LOGISTIC RESOURCE ANNEX TO THE FIVE YEAR DEFENSE PROGRAM

## VOLUME II: A Logistic Resource Annex for the Navy DNFYP

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October 1978



*Prepared for*

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This study provides guidelines that could be used by each of the military Services in providing Logistic Resource Annexes (LRA) to their Five Year Defense Programs (FYDP). The LRAs would be updated concurrent with each updating of the FYDPs and would show logistic resources by logistic function and, for some type of resources, by selected

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20. weapon system. The paper provides comprehensive coverage of the Air Force, Navy and Marine Corps. Coverage is less comprehensive on the Army because of work on this topic by the General Research Corporation.

Volume I establishes the framework for the research. It includes considerable material relating to the characteristics of logistic data and the ways in which financial manpower logistic data should be treated in the Service LRAs. This volume also contains the results of research on an LRA for the Army, and presents recommendations on an OSD-level LRA data system.

Volumes II, III, and IV cover the Navy, Air Force, and Marine Corps respectively. Each of these volumes discusses in depth the Service data systems that are applicable to the LRA and describes the Service LRA data base coverage. A data element reference guide is presented for each Service to show explicitly how the Service could support each line in the LRA and the relevant data systems. Each of the volumes contains an appendix in which there is extensive discussion of how the particular Service could treat each category of logistic resources in satisfying the LRA requirement.

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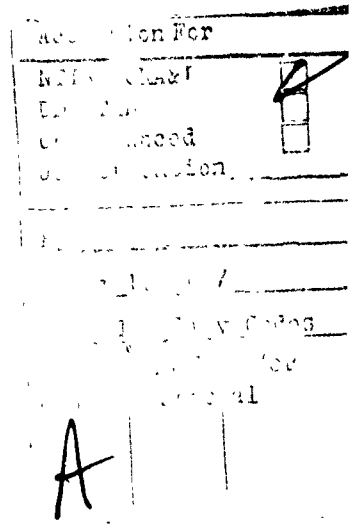

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## GLOSSARY

| | |
|---|---|
| APN | Aircraft Procurement, Navy |
| ASO | Aviation Support Office |
| BAC | Budget Activity Code |
| BCC | Budget Classification Code |
| BOS | Base Operations Support |
| BUPERS | Bureau of Naval Personnel |
| CILOP | Conversion in Lieu of Procurement |
| CNO | Chief of Naval Operations |
| CSC | Category Stub Code |
| DCNO | Deputy Chief of Naval Operations |
| DLA | Defense Logistics Agency |
| DMNIF | Depot Maintenance Navy Industrial Fund |
| DNFYP | Department of Navy Five Year Program |
| DPPC | Defense Planning and Programming Category |
| EFD | Engineering Field Division |
| FMAGS | Fleet Maintenance Assistance Groups |
| FMP | Fleet Modernization Program |
| FYDP | Five Year Defense Program |
| IF | Industrial Fund |
| IMA | Intermediate Maintenance Activities |
| LANTFLT | Atlantic Fleet |
| LRA | Logistic Resource Annex |
| MAC | Military Airlift Command |
| MAPMIS | Manpower and Personnel Management Information System |
| MCN | Military Construction, Navy |
| MCNR | Military Construction, Navy Reserve |
| MILPERS | Military Personnel |

| | |
|---|---|
| MPN | Military Personnel, Navy |
| MSC | Military Sealift Command |
| MTMC | Military Traffic Management Command |
| NAESU | Naval Aviation Engineering Service Unit |
| NAC | Naval Avionics Center |
| NALCOMIS | Naval Aviation Logistics Command Management Information System |
| NARF | Navy Air Rework Facility |
| NARM/FLAIL | Navy Resource Model/Force Level Analysis Interactive Language System |
| NAVAIR | Naval Air Systems Command |
| NAVCOMPT | Navy Comptroller |
| NAVFAC | Naval Facilities Engineering Command |
| NAVMAT | Naval Material Command |
| NAVPROS | Navy Plant Representative Offices |
| NAVSEA | Naval Sea Systems Command |
| NAVSEC | Naval Ship Engineering Center |
| NAVSUP | Naval Supply Systems Command |
| NCB | Director of Budget and Reports, Office of the Navy Comptroller |
| NCIS/FYDP | Navy Cost Information System/FYDP Subsystem |
| NIF | Navy Industrial Fund |
| NON-IF | Non-Industrial Fund |
| NON-NIF | Non-Navy Industrial Fund |
| OA | Obligational Authority |
| OASD/MRA&L | Office of the Assistant Secretary of Defense for Manpower. Reserve Affairs and Logistics |
| OASD/PA&E | Office of the Assistant Secretary of Defense for Program Analysis and Evaluation |
| O&M | Operations and Maintenance |
| O&MN | Operations and Maintenance, Navy |
| OPN | Other Procurement, Navy |
| OPNAV | Office of the Chief of Naval Operations |
| OPTAR | Operating Target |
| OSD | Office of the Secretary of Defense |
| PACFLT | Pacific Fleet |

| | |
|---|---|
| PADS | Personnel Automated Data System |
| PBD | Program Budget Decision |
| PDM | Program Decision Memoranda |
| PE | Program Element |
| POL | Petroleum, Oil, and Lubricants |
| POM | Program Objective Memorandum |
| PPB | Planning, Programming, and Budgeting |
| PPBS | Planning, Programming, and Budgeting System |
| RAD | Resource Allocation Display |
| RCC | Resource Category Code |
| RDT&E | Research, Development, Test, and Evaluation |
| RIC | Resource Identification Code |
| ROV | Repair of Other Vehicles |
| RPMA | Real Property Maintenance Activities |
| SDT | Second Destination Transportation |
| SECDEF | Secretary of Defense |
| SHOROC | Shore Required Operational Capability System |
| SHORSTAMPS | Shore Requirements, Standards, and Manpower System |
| SIDS | Standard Implementation Documentation System |
| SIMA | Shore Intermediate Maintenance Activity |
| SLEP | Service Life Extension Program |
| SPCC | Ships Parts Control Center |
| SUPSHIP | Supervisors of Shipbuilding, Conversions, and Repairs |
| TACAN | Tactical Aircraft Navigation Equipment |
| TMS | Type, Model, and Series |
| TOA | Total Obligational Authority |
| UIC | Unit Identification Code |
| VAMOSC | Visibility and Management of Support Costs |
| WPC | Work Performance Category |
| ZBB | Zero Based Budgeting |

## SUMMARY

This volume presents our analysis of how the Navy could produce the data needed for a Logistic Resource Annex (LRA) to the DoD Five Year Defense Program (FYDP). These data can be used to show separately the resources the Navy requires for its own logistic support and the resources it requires to perform logistic support functions for the Marine Corps.

### A. THE LOGISTIC RESOURCE ANNEX STRUCTURE

The LRA structure developed by OASD/MRA&L is suitable for use in categorizing the Navy's logistic resources. Minor changes are recommended in some sections of the structure, including those that cover modification/conversion equipment and alteration materiel, procurement, transportation, logistic support equipment, and facilities construction.

Exhibit 3, page 9 shows the recommended LRA structure; this structure results from our research on all of the Services. Existing Navy data management systems, if revised as recommended here, can provide the required information using existing Navy data sources.

### B. THE NAVY'S PLANNING, PROGRAMMING, AND BUDGETING SYSTEM

The Navy Planning, Programming, and Budgeting System (PPBS) is operated on a centralized basis as needed to conduct studies, make decisions, and prepare program and budget documents quickly. However, Navy information systems regularly produce comprehensive field data that are used to establish the data bases from which PPBS data are derived.

The formal Navy PPBS procedures and time schedules are very similar to those in the other Services. The major differences are a result primarily of institutional variations among the Services. These Navy procedures can easily be adjusted to include the requirements for the production of an LRA with each regular updating of the FYDP.

## C. NAVY PPBS DATA MANAGEMENT SYSTEMS

The two primary data management systems used by the Navy to support the PPBS are the Navy Cost Information System/Five Year Defense Program Subsystem (NCIS/FYDP) and the Navy Resource Model/Force Level Analysis Interactive Language System (NARM/FLAIL). The NCIS/FYDP contains the official data base for the Department of Navy Five Year Program (DNFYP). This system produces the information that is forwarded to OSD to update the DoD FYDP officially when the Navy budget is submitted in October and when the President's budget is determined in January. In addition to the data elements required for the FYDP, the update system contains detailed data that are not reported to OSD.

The NARM/FLAIL system is used by the Navy to study what impact force structure alternatives and other planning actions will have on Navy programs, as part of the process used to prepare the Navy Program Objective Memorandum (POM). The NARM/FLAIL uses the latest approved January programs as a baseline, incorporates the effect of program changes and Navy POM decisions made after January on the baseline program, and produces the final Navy POM that is forwarded to OSD in May. In addition, the NARM/FLAIL produces the Navy Procurement Annex, which is also forwarded to OSD with each FYDP update.

Thus, the NCIS/FYDP constitutes the official repository for the Navy FYDP data and the NARM/FLAIL is a separate system that can be used to manipulate that data to satisfy Navy planning

needs as well as to produce the POM and each Procurement Annex. These data systems are supported by many formal and informal subsystems. The subsystems operate through resource sponsors on the staff of the Chief of Naval Operations who have cognizance over defined resource areas, and they operate using analyses and production of resource data by the Navy claimants who actually implement Navy programs. Our research approach has emphasized the NCIS/FYDP and NARM/TLAIL because they represent existing centralized automated data management capabilities that contain some of the required LRA data elements, and because they can be modified to process the remaining LRA data if the Navy so desires.

## D. BUDGET CLASSIFICATION CODES

Budget classification codes (BCCs) are internal Navy functional categories used to provide O&M resource data for the NCIS/FYDP data base. These BCCs are functionally oriented and offer a potential data coding structure for reporting operating dollars in the Navy Logistic Resource Annex. To fulfill this purpose, it would be necessary for the Navy both to require the use of some BCCs currently in the structure but not being used and to establish some new BCCs to be used in reporting logistic resource requirements. New BCCs are generally required to enable the disaggregation of some resource groupings so that logistic resources can be separately identified from other operating resources.

By using BCCs and some prorations based on analyst judgment or statistical methods, the Navy can fulfill all LRA requirements for display of O&M financial resources by logistic functional and materiel categories and by selected weapon systems.

## E. MANPOWER

The Deputy Chief of Naval Operations for Manpower (OP-01) is responsible for developing all data on programmed civilian and military manpower to be entered into the NCIS/FYDP and NARM/FLAIL. These data are entered by unit identification code (UIC). These codes identify each individual organization in the Navy and permit manpower resources to be distinguished by program element within the DNFYP.

Since the manpower within individual Navy organizations may be performing more than one military function, it is not possible in most cases to use the UICs to identify logistic resources. Other methods will therefore have to be employed. One method would be through time-consuming analyses of manning documents or tablulations of manpower by job title or skill. Another method would be to build upon an existing Navy data system that is being used to identify Navy shore-based manpower resources by function. If this system were expanded to include all Navy manpower, it could be used to produce the manpower information necessary to support the LRA.

## F. PROCUREMENT

Logistic support resources that are provided by the Congress through the Navy procurement appropriations are to be included in the LRA. Considerable data on these resources are available in the Office of the Chief of Naval Operations.

Most of the procurement data required to support the LRA are regularly published in the FYDP Procurement Annex, so these data can be placed directly in the proper LRA categories. The LRA will require some spares and repair parts data to be distributed by materiel category and by weapon system. We recommend that these requirements be satisfied by proration of resources.

To fulfill some of the LRA procurement requirements, it will be necessary for the Navy to place some information in the LRA data base that is currently produced for budget backup purposes or retained in resource sponsor records for management of the resource areas. Some of these data relate to modification programs and involve not only the identification of procurement resources, but also the identification of resources used for the installation of specific hardware procured for modification programs.

## G. THE DATA ELEMENT REFERENCE GUIDE

A data element reference guide (Table 5, pages 55ff) has been prepared to identify the location of data, reporting channels, and requirements for methods of calculation or estimation for each logistic function and subfunction in the LRA. With this guide, the reader can quickly determine what the Navy must do to produce LRA data for logistic functions and selected weapon systems.

There are basically three methods of obtaining the necessary data: one for procurement resources, one for central- and field-managed operating resources, and one for construction and housing resources. These methods are summarized below. The procurement method relies heavily on the extensive data in the Procurement Annex and in the files and management materials of the various resource sponsors. The operating resource method stresses the usefulness of the budget classification code structure and the detailed programming and management data maintained by resource sponsors. Finally, the construction and housing resources data are readily available in the Navy FYDP data bases.

Appendix A to this volume contains a detailed narrative analysis of how the Navy can provide the necessary logistic resource data for all sections of the LRA, not only for logistic function and materiel category, but also for selected weapon

## SUMMARY OF BASIC METHODS OF OBTAINING NAVY LRA DATA

**Procurement Resource Data**

To obtain these data:

-- Use **Procurement Annex information** with greater detail from resource sponsors--available in budget backup and program management displays.

-- Allocate categories of resources by **budget activities** and, in some cases, subactivities to materiel categories and weapon systems.

-- Use existing **Resource Category Codes** and create new RCCs.

**Central- and Field-Managed Operating Resource Data**

To obtain these data:

-- Use some data available by **FYDP Program Element**

-- Use **budget forms** for some data elements and for allocation factors.

-- Acquire through **resource sponsor analyses.**

-- Use existing **Budget Classification Code** structure with full implementation of existing BCCs and creation of new BCCs.

**Construction and Housing:**

To obtain these data:

-- Use standard **PPBS and budget documents.**

systems. The data element reference guide is a detailed summary display of this analysis.

Appendix B contains the current Navy budget classification code structure.

# Chapter I

# INTRODUCTION

In this volume of IDA P-1334 we present guidelines by which the Navy can produce a Logistic Resource Annex (LRA). The LRA includes those Navy resources (dollars and manpower) that provide logistic support to the Navy, Marine Corps, and DoD activities such as the Defense Logistics Agency (DLA); and DoD resources (dollars) that support the Navy family housing program.

Navy logistic support to the Marine Corps goes principally to the Marine Corps Air component and mainly comprises centrally managed programs such as those covering aircraft spares and repair parts and depot level maintenance. Those Marine Corps resources that provide support to the Navy are excluded from this LRA, but are included in the separate Marine Corps LRA discussed in Volume IV.

Our approach to delineation of LRA resources is to include the entire Total Obligational Authority (TOA) of a single Service in that Service's LRA and exclude the TOA of any other Service. This approach is called "Service appropriation integrity." DoD family housing dollars are displayed separately in each Service LRA. Because Navy resources play an important role in supporting the Marine Corps Air component, those portions of the Navy resources in the LRA that represent centrally managed maintenance and spares support to the Marine Corps are also identified separately. Neither practice conflicts with the appropriation integrity approach, as these resources are all Navy resources and summing the Navy's dollars as displayed in the LRA yields the value of the Navy TOA.

Navy appropriations and Marine Corps appropriations are sometimes distinguished by referring to the blue (Navy) dollar versus the green (Marine Corps) dollar. The Navy LRA shows all blue logistic dollars, regardless of whether the dollars go to the Navy, to the Marine Corps, or to DoD agencies, and it shows no green logistic dollars. Figure 1 highlights the distinction between blue and green dollars. The top middle box represents the Navy TOA for FY 78--the blue dollars in the FYDP. The Navy LRA includes the logistic portion of these blue dollars in various functional, materiel, and weapon system categories. The lower right box represents the centrally managed part of these logistic dollars that goes to Marine Corps Air activities in Marine Corps program elements (PEs) in the FYDP. The Navy LRA does not separately identify either the noncentrally managed blue dollars going to Marine Corps activities or the blue logistic dollars that go to DoD activities in DoD PEs (lower left box in Figure 1).

Exhibit 1 shows all Marine Corps FYDP PEs that contained Navy blue dollars in FY 78 (January 31, 1978 FYDP update). The centrally managed blue dollars contained in Marine Corps aircraft PEs, such as PE 26134M, F-18 squadrons, are identified as supporting Marine Corps programs in the Navy LRA. Blue dollars that are not centrally managed and also support Marine Corps Air activities, such as the blue dollars in Marine Corps PE 26617M, "Operational Logistics Development," are not identified as supporting Marine Corps activities in the Navy LRA.

Utilizing the appropriation integrity approach also means that the Navy LRA does not include all of the dollars displayed in Navy PEs in the FYDP. Exhibit 2 shows 36 Navy PEs in which green dollars are recorded in the FYDP, primarily in Major Force Program 2 ship PEs and management headquarters PEs. In FY 78, green dollar support to Navy PEs amounted to $120 million (see upper right box in Figure 1), which was less than

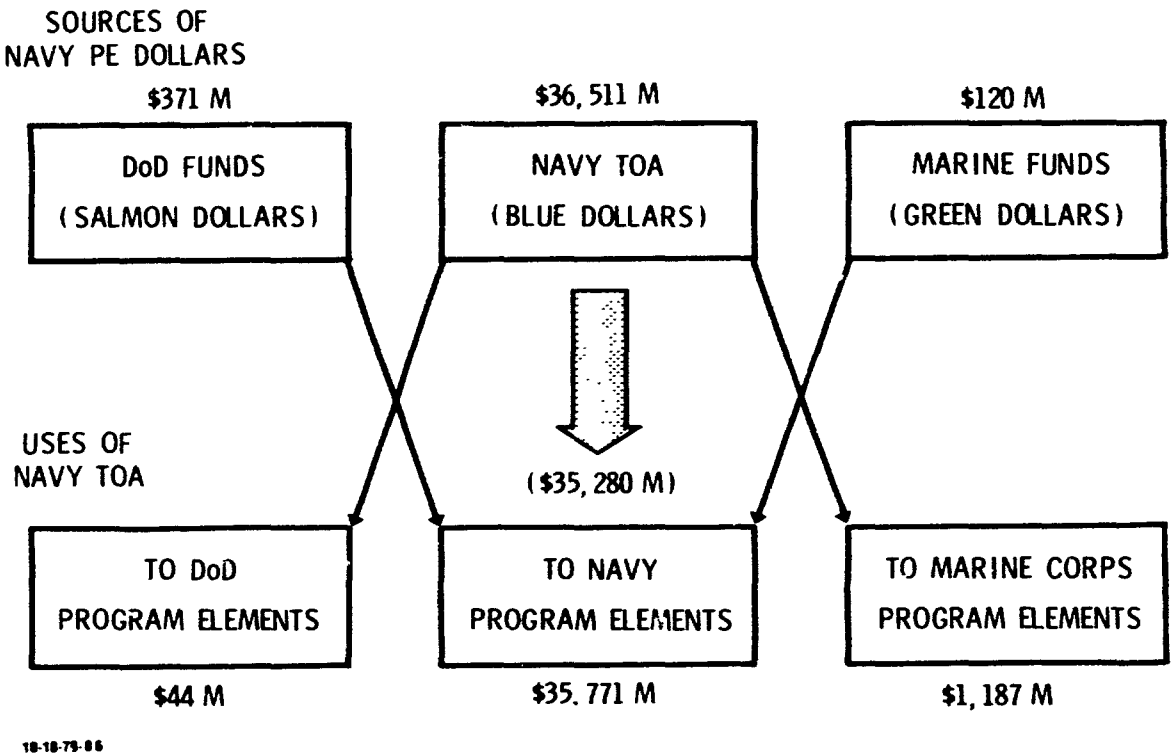



Figure 1. OVERVIEW OF USES OF NAVY TOA AND SOURCES OF NAVY PE DOLLARS

# Exhibit 1. NAVY (BLUE) DOLLARS IN MARINE CORPS PES IN THE FYDP (FY78)

| FYDP Major Force Programs | Navy (Blue) TOA Dollars in Given PEs as Percent of Navy TOA in all Marine PEs (FY 78) |
|---|---|
| Force Program 2: General Purpose Forces<br>PE 26110M AV-8 Squadrons<br>PE 26111M A-4 Squadrons<br>PE 26112M A-6 Squadrons<br>PE 26114M F-4 Squadrons<br>PE 26116M Marine Fighter/Photo Recon and Attack/EW Squadrons<br>PE 26117M Light Anti-Aircraft/Missile BN (LAAM)<br>PE 26120M UH-1E Squadrons<br>PE 26121M CH-46 Squadrons<br>PE 26122M CH-53 Squadrons<br>PE 26124M VMO Squadrons<br>PE 26125M Helicopter Combat Support<br>PE 26126M Tactical Combat Support<br>PE 26127M KC-130 Squadrons<br>PE 26131M Marine Attack Helicopter Squadrons<br>PE 26134M F-18 Squadrons<br>PE 26138M Air Launched Ordnance/Missile (TACAIR)<br>PE 26139M Aviation Support (TACAIR)<br>PE 26140M Air Launched Ordnance/Missile (LANDFOR)<br>PE 26141M Aviation Support (LANDFOR)<br>PE 26142M Marine Tactical Recon Squadrons<br>PE 26143M Marine Tactical Electronic Warfare Squadrons<br>PE 26211M Divisions (Marine)<br>PE 26311M Force Troops (Marine)<br>PE 26313M Marine Corps Telecommunications<br>PE 26496M Base Operations<br>PE 26497M Training<br>PE 26498M Management Headquarters (Fleet Marine Force)<br>PE 26617M Marine Corps Operational Logistics Development<br>PE 26619M Marine Corps Operational Electronics Development<br>PE 26620M Marine Corps Weaponry<br>PE 26622M Marine Corps Data Systems<br>PE 28010M Joint Tactical Communications Program (TRI-TAC) | 96% |
| Force Program 5: Guard and Reserve Forces<br>PE 52512M Wings (MC Reserve)<br>PE 52598M Management Headquarters (Surface) | 2% |
| Force Program 6: Research and Development<br>PE 63765M Other Marine Corps Development (Advanced)<br>PE 63766M Marine Corps Data Systems<br>PE 65153M Marine Corps Operations Analysis Group, CNA<br>PE 65854M Development Center Support<br>Force Program 7: Central Supply and Maintenance<br>PE 72896M Base Operations | 1% |
| Force Program 8: Training, Medical, and Other Personnel Activities<br>PE 81711M Recruiting Activities<br>PE 84711M Recruit Training Unit<br>PE 84731M General Skill Training<br>PE 84751M Professional Military<br>PE 85796M Base Operations (Training)<br>Force Program 9: Administration and Associated Activities<br>PE 91212M Service-Wide Support<br>PE 92398M Management Headquarters, Departmental | 1% |

# Exhibit 2. MARINE CORPS (GREEN) DOLLARS IN NAVY PES IN THE FYDP (FY 78)

| FYDP Major Force Programs | Marine Corps (Green) (TOA) Dollars in Given PEs as Percent of Marine TOA in all Navy PEs (FY 78) |
|---|---|
| Force Program 2: General Purpose Forces<br>PE 21118N, Airborne Command Post (CINCPAC)<br>PE 21498N, Management Headquarters (PACOM)<br>PE 24112N, Multi-Purpose Aircraft Carriers<br>PE 24283N, Submarine Support<br>PE 24291N, Cruisers<br>PE 24411N, Amphibious Assault Ships<br>PE 24455N, Naval Construction Forces<br>PE 24615N, Fleet Support (Port) Base Operations<br>PE 24655N, Operational Headquarters (Sea Control-Surface)<br>PE 24698N, Management Headquarters (Fleet)<br>PE 24798N, Management Headquarters (Sea Control-Projection)<br>PE 24898N Management Headquarters (Surface)<br>PE 28015N, Combat Developments | 65% |
| Force Program 3: Intelligence and Communications<br>PE 31011N, Cryptologic Activities<br>PE 31013N, Human Intelligence<br>PE 31020N, Electronic Intelligence Defense Analysis<br>PE 31021N, Intelligence Production Activities<br>PE 31025N, Intelligence Data Handling System<br>PE 31055N, Cryptologic Communications<br>PE 31056N, Intelligence Communications<br>PE 33113N, Navy Communications<br>PE 34128N, Counterintelligence/Investigative Activities<br>PE 3xxxxN, Service Support to Defense Agencies | 9% |
| Force Program 4: Airlift and Sealift<br>Pt 42198N, Management Headquarters Sealift (IF) | 0%[a] |
| Force Program 7: Central Supply and Maintenance<br>PE 71111N, Supply Depot Operations (Non-IF)<br>PE 72898N, Management Headquarters (Logistics) | 1% |
| Force Program 8: Training, Medical and Other Personnel Support<br>PE 84721N, Service Academy<br>PE 84723N, ROTC<br>PE 84741N, Undergraduate Pilot Training<br>PE 84742N, Undergraduate Navigator/NFO Training<br>PE 85798N, Management Headquarters (Training)<br>PE 88716N, Other Personnel Activities<br>PE 89721N, Junior ROTC | 22% |
| Force Program 9 Administration and Associated Activities<br>PE 91212N, Service-Wide Support<br>PE 92398N, Management Headquarters, Departmental<br>PE 92498N, Management Headquarters, Administrative | 3% |

[a]Dollar amount less than 1%.

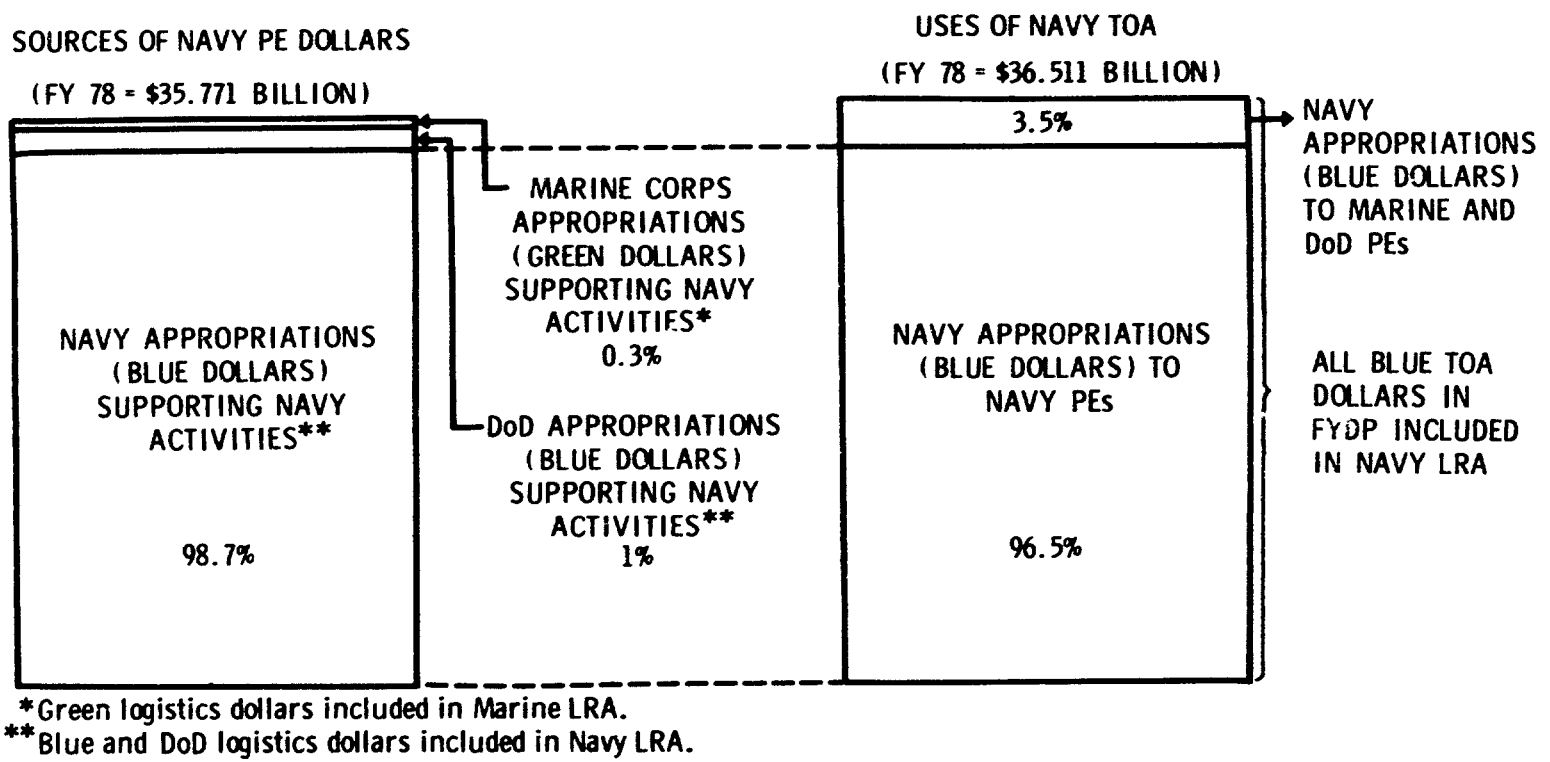
one-tenth of one percent of all dollars in Navy PEs, as shown in Figure 2.[1]

Figure 2 summarizes the coverage of dollars in the Navy LRA. All Navy logistic TOA dollars identified in the Navy TOA shown in the right block of Figure 2 are included in the Navy LRA. In terms of all dollars in Navy PEs (left block of Figure 2), the LRA shows all Navy logistic dollars and DoD logistic dollars (family housing) in Navy PEs, but no Marine Corps dollars.

We discussed the research objectives of the study and established a framework for our research relating to all of the Services in Volume I. It is therefore recommended that the reader review Chapter I, Volume I. In Chapter II of this volume we discuss the Navy Planning, Programming, and Budgeting System (PPBS) and describe the data management and data sources systems that could be used to support the Navy LRA. This chapter includes a rather extensive treatment of Navy manpower data and alternatives for providing the necessary Navy manpower information for the LRA.

Subsequent to the completion of this study, the Chief of Naval Operations, by OPNAV NOTICE 5430, Dec. 18, 1978, established the office of the Deputy Chief of Naval Operations (Manpower, Personnel and Training) CHNAVPERS (OP-01). This new OP-01 organization resulted from the merger of certain elements of the Office of Civilian Personnel (OCP), the former OP-01 organization, the Office of the Director, Naval Education and Training (OP-099), and the Bureau of Naval Personnel (BUPERS). When fully implemented this reorganization will result in

[1]It is feasible to display the Marine Corps resources that support Navy logistics functions in the Navy LRA. Currently all of these resources are included in the Marine Corps LRA. It would also be feasible to display in the Navy LRA all of the Navy resources according to what Services and DoD activities they support, as is now done for centrally managed resources that support the Marine Air activities.




*Green logistics dollars included in Marine LRA.
**Blue and DoD logistics dollars included in Navy LRA.

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Figure 2. NAVY LRA COVERAGE OF SOURCES OF DOLLARS IN NAVY FYDP PES AND USES OF NAVY TOA APPROPRIATIONS IN FYDP

certain changes in the office responsibilities and procedures discussed in Chapter II, Section D. These changes will not affect the basic methods by which the Navy can fulfill the LRA requirements as discussed in this paper.

Chapter III describes the coverage required of a Navy LRA data base and contains our data element reference guide, which identifies in summary form the data systems or the requirements for methods of estimating the data required for the LRA.[1] Appendix A treats the various sections of the LRA more extensively, in order that the analyst can develop a more detailed understanding of the data elements and related information systems that can be obtained from the data element reference guide. Appendix B lists the Navy Budget Classification Codes.

As the LRA structure used in this study was provided by OASD/MRA&L, most of our research was devoted to examining Navy data systems that might be used to support that structure. If we found that these systems were not sufficient, we indicated the means by which to provide the required data elements through modification or expansion of existing systems or through allocations of data using judgment or statistical methods, where required. We have assumed that the LRA data requirements should be fulfilled to the maximum extent possible using existing sources of data. We have purposely avoided an approach that would require the Navy to develop new data sources, because our research convinces us that existing sources are sufficient to support the LRA. However, it is clear that some existing data management systems require substantial modification before data for the LRA can be provided in the required functional and

[1]Data systems and methods mean formal mechanized, perhaps computerized, data reporting systems like the operating expense budgeting and accounting system; formal computerized data management systems, like the NCIS/FYDP, that accept data from reporting systems; and nonmechanized staff analyses conducted by resource and mission sponsors, claimants, and managers.

weapon system categories. In addition, some data must be allocated by use of judgment or statistical methods in cases where aggregate total quantities of dollars or manpower are available but disaggregated subtotals are not available because programs are not managed, budgeted, or funded at the subtotal level. As explained in Chapter I, Volume I, these kinds of allocations are a lower cost substitute for new data systems.

Our task order asked us to validate the proposed OSD LRA structure, and we have suggested relatively small changes in some areas of that structure. Exhibit 3 shows the structure with our proposed changes incorporated. Our research shows that this structure provides a valid framework within which to display the totals of Navy logistics dollars and manpower in the FYDP by logistic function and by selected weapon system.[1]

The reasons for some of our recommended changes are set forth in Appendix A, which contains detailed discussions of each of the functional categories shown in the structure. Throughout this paper references are made to the materiel categories shown in Exhibit 3, primarily in section IA. For the purposes of this study materiel categories are aircraft, ships, missiles, combat vehicles, weapons and ordnance, electronics and telecommunications equipment, and other equipment.[2]

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[1]Exhibit 3 is the Navy version of the basic OSD LRA structure presented in Volume I. Most of the functional lines are identically worded, but a few line items in the Navy LRA structure carry titles that identify specific Navy names for activities that are identified by generic names in the OSD LRA structure. As an example, under line item IA2a, "Manpower in Organic Depot Level Maintenance Activities," the appropriate Navy line items are Naval Air Rework Facilities and Naval Avionics Center, whereas the appropriate OSD generic line items would be Aircraft Depot Maintenance Facilities and Avionic Depot Maintenance Facilities.

[2]See Paragraph D1 and Enclosure 2 of DoDI 4151.15, *Depot Maintenance Programming Policies*, November 22, 1976; and Paragraph 3.5 of MIL-STD-881, *Military Work Breakdown Structures for Defense Materiel Items*, November 1, 1968.

Exhibit 3 does not identify the specific data elements that would be shown in the LRA but simply shows what functions will be covered. The data base required to support the LRA is described in Chapter III. Information on logistic support to Marine Corps organizations will be included in the Navy LRA; this information includes the resources programmed by the Navy to support Marine Corps activities, with the bulk of these resources being committed to aircraft spares and aircraft depot maintenance activities.

Exhi

I. LOGISTIC SUPPORT OF PEACETIME MATERIEL READINESS

A. MAINTENANCE, MODIFICATION AND TECHNICAL SUPPORT OF EQUIPMENT

1. Depot-Level Maintenance and Modification/Alteration Installation
   - a Aircraft
     - (1) Airframe Reworks
     - (2) Engine Overhaul
     - (3) Component Repair
     - (4) Modification Installation
     - (5) Other Maintenance and Support
   - b. Ships
     - (1) Scheduled Overhaul
     - (2) Other Overhaul and Repair (RA/TA)
     - (3) Shipboard Equipment/Component Repair
     - (4) Alterations Installation (FMP)
     - (5) Conversions Installation
     - (6) Other Maintenance and Support
   - c. Missiles
     - (1) Equipment Overhaul and Repair
     - (2) Component Repair
     - (3) Modification Installation
     - (4) Other Maintenance and Support
   - d. Combat Vehicles
     - (1) Equipment Overhaul and Repair
     - (2) Component Repair
     - (3) Modification Installation
     - (4) Other Maintenance and Support
   - e. Weapons and Ordnance
   - f. Electronics and Telecommunications Equipment
   - g. Other Equipment

2. Manpower in Navy Organic Depot Level Maintenance Activities
   - a Naval Air Rework Facilities
   - b. Naval Center
   - c. Naval Shipyards
   - d. Naval Ship Repair Facilities
   - e. Naval Missile Facilities
   - f. Naval Ordnance Facilities
   - g Naval Ship Engineering Centers

3. Sustaining Engineering and Technical Support
   - a Aircraft
   - b. Ships
   - c Missiles
   - d. Combat Vehicles
   - e Weapons and Ordnance
   - f. Electronic and Telecommunications Equipment
   - g Other Equipment

I. LOGISTIC SUPPORT OF PEACETIME MATERIEL READINESS, Cont

4. Intermediate-Level Maintenance
   - a. Aircraft
   - b. Ships
   - c. Missiles
   - d. Combat Vehicles
   - e. Weapons and Ordnance
   - f. Electronic and Telecommunications Equipment
   - g. Other Equipment

5 Organizational/Unit-Level Maintenance
   - a. Aircraft
   - b. Ships
   - c Missiles
   - d. Combat Vehicles
   - e. Weapons and Ordnance
   - f. Electronic and Telecommunications Equipment
   - g. Other Equipment

6. Initial Spares and Repair Parts (Procurement)
   - a. Aircraft
   - b. Ships and Shipboard Equipment
   - c. Missiles
   - d. Combat Vehicles
   - e Weapons and Ordnance
   - f. Electronic and Telecommunications Equipment
   - g. Other Equipment

7. Replenishment Spares and Repair Parts (Procurement)
   - a. Aircraft
   - b. Ships and Shipboard Equipment
   - c. Missiles
   - d. Combat Vehicles
   - e. Weapons and Ordnance
   - f. Electronic and Telecommunications Equipment
   - g. Other Equipment

8. Modification/Conversion Hardware and Alteration Materiel (Procurement)[a]
   - a. Aircraft
     - (1) Conversion in Lieu of Procurement (CILOP)
       - (a) Service Life Extension (SLEP)
       - (b) Other (CILOP)
     - (2) Operational/Military Capability Improvements
     - (3) Safety
     - (4) Reliability and Maintainability
     - (5) Other
   - b. Ships
     - (1) Conversions (SCN-funded)
       - (a) Service Life Extension
       - (b) Other
     - (2) Alterations
       - (a) Operational/Military Capability Improvements
       - (b) Safety
       - (c) Reliability and Maintainability

I. LOGISTIC SUPPORT OF PEACETIME MATERIEL READINESS, Cont

   - c. Missiles
     - (1) Operational/Military Capability Improvements
     - (2) Safety
     - (3) Reliability and Maintainability
     - (4) Other
   - d. Combat Vehicles
   - e. Weapons and Ordnance
   - f Electronics and Telecommunications
   - g Other Equipment

B. SUPPLY SYSTEM OPERATIONS
1. Depot-Level Storage and Distribution Activities
2. Central Inventory Management Activities
3. Procurement Operations and Contract Administr Services
   - a. Central Procurement Operations
   - b. Central Contract Administration
   - c. Other Procurement Operations (Non-BOS)
4. Supply Operations
   - c. Intermediate Level
   - b. Organizational Level

C. TRANSPORTATION
1. Second Destination Transportation
   - a Transportation
     - (1) MAC
     - (2) MSC
     - (3) Other
   - b. Terminal Services
2. Airlift Operations (MAC)
3 Sealift Operations (MSC)
4. Traffic Management and Terminals (MTMC)
5. Transportation Services
   - a. Intermediate Level
   - b. Organizational Level

D LOGISTIC SUPPORT OF FORCE OPERATIONS AN TRAINING
1 Fuel
   - a. Aircraft
   - b. Ships
   - c. Vehicles
   - d Other
2. Personnel Support Materiel
   - a. Subsistence
   - b Clothing and Medical Supplies
3. Other Consumable Supplies and Materials
4 Munitions· Peacetime Operations and Training (Procurement)
   - a. Ammunition
   - b Tactical Missiles
   - c. ASW and Other Munitions

[a]Non-add entries will be provided for all programs to show installation costs separately

# Exhibit 3. LOGISTIC RESOURCE ANNEX: OSD FUNCTIONAL CATEGORY STRUCTURE

## I. LOGISTIC SUPPORT OF PEACETIME MATERIEL READINESS, Cont.

c. Missiles
   (1) Operational/Military Capability Improvements
   (2) Safety
   (3) Reliability and Maintainability
   (4) Other
d. Combat Vehicles
e. Weapons and Ordnance
f. Electronics and Telecommunications
g. Other Equipment

B. SUPPLY SYSTEM OPERATIONS
1. Depot-Level Storage and Distribution Activities
2. Central Inventory Management Activities
3. Procurement Operations and Contract Administration Services
   a. Central Procurement Operations
   b. Central Contract Administration
   c. Other Procurement Operations (Non-BOS)
4. Supply Operations
   a. Intermediate Level
   b. Organizational Level

C. TRANSPORTATION
1. Second Destination Transportation
   a. Transportation
      (1) MAC
      (2) MSC
      (3) Other
   b. Terminal Services
2. Airlift Operations (MAC)
3. Sealift Operations (MSC)
4. Traffic Management and Terminals (MTMC)
5. Transportation Services
   a. Intermediate Level
   b. Organizational Level

D. LOGISTIC SUPPORT OF FORCE OPERATIONS AND TRAINING
1. Fuel
   a. Aircraft
   b. Ships
   c. Vehicles
   d. Other
2. Personnel Support Materiel
   a. Subsistence
   b. Clothing and Medical Supplies
3. Other Consumable Supplies and Materials
4. Munitions: Peacetime Operations and Training (Procurement)
   a. Ammunition
   b. Tactical Missiles
   c. ASW and Other Munitions

## II. LOGISTIC SUPPORT OF POST-D-DAY COMBAT SUSTAINABILITY

A. WAR RESERVE STOCKAGE
1. Munitions (Procurement)
   a. Ammunition
      (1) Ground
      (2) Air
      (3) Ship Gun
   b. Tactical Missiles
      (1) Surface-Surface
      (2) Surface-Air
      (3) Air-Air
      (4) Air-Surface
   c. Other Munitions
      (1) Sonobouys
      (2) Torpedoes and Mines
      (3) All Other Munitions
2. Aviation War Consumables (Procurement)
3. Spares and Repair Parts (Procurement)
4. Stock Fund Materiel
   a. Repair Parts
   b. Clothing
   c. Other Supplies

B. INDUSTRIAL PREPAREDNESS
1. Ammunition Production Base Investment (Procurement)
2. Other Industrial Facilities Investment (Procurement)
3. Manufacturing Technology (Procurement)
4. Industrial Preparedness Operations
   a. Layaway/Maintenance of Reserve Plants
   b. Layaway/Maintenance of Reserve IPE
   c. Industrial Preparedness Planning
   d. IPE Management and Control
   e. Manufacturing Technology (O&M-funded)

## III. LOGISTICS MANAGEMENT AND SUPPORT ACTIVITIES

A. LOGISTICS MANAGEMENT HEADQUARTERS

B. LOGISTIC SUPPORT EQUIPMENT (Procurement)
1. Aircraft Logistic Support
2. Ship Logistic Support
3. Missile Logistic Support
4. Combat Vehicles Logistic Support
5. Weapons and Ordnance Logistic Support
6. Electronics and Telecommunications Logistic Support
7. Civil Engineering Logistic Support
8. Maintenance Support Equipment
9. Supply Support Equipment
10. Logistic ADP
11. Productivity Enhancement Investment

C. OTHER CENTRAL LOGISTIC SUPPORT
1. Property Disposal
2. Inactive Equipment Storage and Maintenance
3. Other Logistics Activities

## IV. INSTALLATIONS AND FACILITIES SUPPORT

A. FACILITIES CONSTRUCTION (LESS HOUSING)
1. Logistic Facilities Construction
   a. Supply and Storage Facilities
      (1) Ammunition
      (2) POL
      (3) POMCUS
      (4) Other
   b. Maintenance Facilities
2. Other Facilities Construction
   a. Administrative Facilities
   b. Community Facilities
   c. Medical Facilities
   d. R&D Facilities
   e. Operations and Training Facilities
   f. Telecommunications Facilities
   g. NATO Infrastructure
   h. Guard and Reserve Facilities
   i. Utilities and Real Estate Acquisition
   j. Air Pollution Control
   k. Water Pollution Control
   l. Nuclear Security
   m. Energy Conservation Investment
   n. Minor Construction
   o. Planning and Design
   p. Contingency
3. Personal Property Collateral Equipment
   a. Logistics Facilities Equipment
   b. Other Facilities Equipment

B. HOUSING
1. Family Housing
   a. New Construction
   b. Improvements
   c. Leasing
   d. Operation
   e. Maintenance
   f. Debt Payment
2. Troop Housing Construction

C. REAL PROPERTY MAINTENANCE ACTIVITIES
1. Maintenance and Repair
2. Minor Construction
3. Utilities Operation
4. Other Engineering Support

D. BASE OPERATIONS: OTHER SERVICES AND SUPPORT
1. Administrative Services
2. Installation Level Supply Services
3. Installation Level Maintenance Services
4. Installation Level Transportation Services
5. Installation Level Procurement Services
6. All Other Base Services

## Chapter II

## NAVY SUPPORT OF THE LRA

As the LRA is planned as a regular product of the Navy PPBS it should be supported by data systems that are an integral part of this system.[1] In this chapter we will first give a brief overview of the Navy's PPBS and then discuss in some detail the PPBS data systems that are of greatest interest to us in setting up a procedure to produce an LRA.[2]

### A. THE NAVY'S PLANNING, PROGRAMMING, AND BUDGETING SYSTEM

The Director of Navy Program Planning (OP-090) on the staff of the Chief of Naval Operations (CNO) is the coordinator for the Navy resource planning and programming system. His office interacts with OSD staff, primarily the Office of the Assistant Secretary of Defense for Program Analysis and Evaluation (OASD/PA&E), and with the Navy offices that are involved in the more detailed planning and programming of Navy resources. Since the DoD PPBS is an integrated system that includes budgeting, OP-090 also works closely with the Navy Comptroller (NAVCOMPT). The OP-090 Fiscal Management Division (OP-92) maintains comprehensive Navy PPBS financial information and

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[1]The Navy resources used to provide logistic support to the Marine Corps are programmed by the Navy as part of the Navy PPBS, so the ensuing discussion of the Navy PPBS applies to all Navy logistic support resources including those that support Marine Corps activities.

[2]For a more comprehensive discussion of the Navy PPBS, Navy appropriations, and the Five-Year Program structure, see John D. Morgan, et al., *A System to Produce a Logistic Resource Annex to the Navy Five Year Defense Program*, IDA Study S-484 (September 1976), and John D. Morgan, et al., *A Phase I Report on a Proposed Navy Logistic Resource Data Base Structure and Associated Resource Displays*, IDA Paper P-1194 (March 1976).

performs functions similar in some respects to those performed by the Director of Budget and Reports (NCB) in the Office of the Navy Comptroller. There is constant contact between OP-090 and NAVCOMPT, facilitated by the fact that the Director of OP-92 also serves as the Director of NCB.

OP-090 is responsible for the Navy planning and programming actions that precede the formal preparation of the annual Navy budget that is submitted to OSD. In this respect, OP-090 functions as the Navy counterpart to OASD/PA&E. OP-090 provides guidance, supervises the preparation of the Navy's Program Objective Memorandum (POM), and handles the Secretary of Defense Program Decision Memoranda (PDM) in July and August. NAVCOMPT is responsible for the preparation and submission of the Navy's annual budget and for those activities associated with the budget review process occurring in the period from October through December. Thus, responsibilities for the Navy PPBS are centralized and exercised through arrangements similar to those in the OSD.

Some Navy offices involved in the PPBS process have been designated as sponsors for particular areas that involve resource allocations.[1] These sponsors include mission, resource, and appropriation sponsors.[2] Without imposing centralized control

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[1]Sponsorship is assigned by Program Elements in POM serialized memoranda called Resource Allocation Displays (RADs). Specifically, a RAD defines the relationships between mission and resource sponsorships and these defined relationships are the basis for contact and interaction between the mission sponsors and the resource sponsors who exercise funding responsibilities for specific PEs. These RAD sponsorship assignments are made in accordance with the defined staff responsibilities contained in OPNAVINST 5430.48, the *OPNAV Organization Manual*, and in OPNAV 90P-ID, the *Department of Navy Programming Manual*.

[2]Mission sponsors are responsible for the development of overall goals, objectives, rationales, justifications, and resource requirements for specific mission areas. The mission sponsors develop and maintain mission priorities within their assigned mission areas and they make readiness appraisals of the Navy's ability to accomplish (continued on next page)

of details, these offices ensure that PPBS actions are consistent with CNO policies in their special areas of interest. Several sponsors on the CNO staff are interested in logistics support operations, although the major responsibility is in the Office of the Deputy Chief of Staff of Naval Operations for Logistics (OP-04).

Table 1 identifies the CNO staff offices that serve as mission and resource sponsors for various Navy mission areas. A single mission sponsor is assigned to each mission area with the exception of the carrier sea control mission area, which has two mission sponsors. Each mission sponsor may be responsible for more than one mission area. For example, OP-03 (DCNO for Surface Warfare) is responsible for three mission areas (Amphibious, Special Warfare, and Mobile Support forces).

As Table 1 illustrates, most resource sponsors are also responsible for more than one mission area. For example, OP-04 (DCNO for Logistics) has resource programming responsibilities in seven mission areas: USMC support; Mobile Support Forces; Mobility; Support and Logistics; Training; Personnel Support; and Medical Support. Moreover, most mission areas have several resource sponsors. Thus, while OP-04 is a resource sponsor for the Support and Logistics mission area, so are OP-02, OP-05, OP-09B, and OP-06.

These complex mission and resource sponsor responsibilities are monitored by OP-901 and assigned in accordance with Navy directives. The mechanism that provides a cross reference

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(Cont'd) the various missions. With respect to resource requirements, the mission sponsors coordinate their mission responsibilities with resource information from the resource and appropriation sponsors. Resource sponsors are responsible for identifiable aggregations of resources which may be used in several different mission areas. Generally, resource sponsors are also program element sponsors. Resource sponsors are primarily responsible for resource programming, and this explains their importance to the LRA data sources and data flows considered in this paper.

# Table 1. ILLUSTRATIVE RAD, SHOWING RELATIONSHIPS AMONG NAVY MISSIONS, MISSION SPONSORS, AND RESOURCE SPONSORS

| Mission | Mission Sponsor | Navy Resource Sponsor | | | | | | | | | | | | Total Navy TOA FY___ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Platform Sponsor | | | General Sponsor | | | | | | | | | |
| | | Subs OP-02 | Surface OP-03 | Air OP-05 | OP-095 | OP-094 | OP-01 | OP-04 | OP-098 | OP-098 | OP-009 | OP-099 | OP-06 | |
| Strategic | OP-06 | X | | | | X | | | | | | | | X |
| General Purpose Forces | | | | | | | | | | | | | | X |
| Sea Control (Less CV and Air) | OP-095 | X | X | X | X | X | | | X | X | X | | | X |
| Sea Control--Air | OP-05 | | X | X | | | | | | | | | | X |
| Sea Control--CV | OP-05, OP-095 | | X | X | | | | | | | | | | X |
| Projection--Air | OP-05 | | | X | | | | | | | | | | X |
| Amphibious | OP-03 | | X | X | | | | | X | X | | | | X |
| USMC Support | | | | X | | | X | X | X | X | | X | | X |
| Special Warfare | OP-03 | | X | | | | | | | | | | | X |
| Mobile Support Forces | OP-03 | | X | X | | | | X | | | | | | X |
| Mobility | OP-04 | | | | | | | X | | | | | | X |
| C Cubed | | | | | | | | | | | | | | X |
| Intelligence | OP-009 | | | | | | | | | X | X | | | X |
| Fleet Command and Communications | OP-094 | X | X | | | X | | | | | | | | X |
| Command and Control Programs | OP-094 | | | | | X | | | | | | | | X |
| General Support and Logistics | OP-04 | | | | | | | | | | | | | X |
| Support and Logistics | OP-04 | X | | X | | | | X | X | | | | X | X |
| Shore Command | OP-098 | | | | | | | | X | | | | X | X |
| R and D Support | OP-098 | | | X | | | | | X | | | | | X |
| Military Assistance | OP-06 | | | | | | | | X | | | | X | X |
| Manpower and Training | | | | | | | | | | | | | | X |
| Training | OP-099 | X | X | X | | X | X | X | X | X | X | X | | X |
| Personnel Support | OP-01 | | | | | | X | X | X | X | | | | X |
| Medical Support | OP-04 | | | | | | | X | | | | | | X |
| Total TOA FY___ | | X | X | X | X | X | X | X | X | X | X | X | X | GRAND TOTAL[a] |

[a]The grand total Navy TOA for a given fiscal year is displayed in the RAD in several disaggregations, and two are shown here mission and resource sponsors in the CNO staff offices. The RAD emphasizes the sponsor interrelationships among the staff offices in order to identify the portions of TOA for which the offices exercise complementary responsibilities

between and among these responsibilities and the various offices is the Resource Allocation Display (RAD) which is produced four times a year by OP-901. (Table 1 is part of a typical summary format taken from the October 1977 RAD.) This summary display is supported by detailed backup displays that identify each mission and resource sponsor with the specific program elements for which he is responsible. A final complication in the mission and resource sponsorship matrix is that several CNO offices serve in both sponsorship roles for some mission areas. For example, within OP-04 several individuals carry out mission or resource responsibilities (or both) for the Support and Logistics mission area.

OP-090 and NAVCOMPT work closely with the designated sponsors to ensure that all PPBS actions are in conformance with CNO policies. These offices also work on a daily basis with another group, the appropriation claimants. The claimants are responsible for the detailed planning, programming, budgeting, and financial management of particular parts of the total Navy program. For example, the Chief of Naval Personnel is the claimant for military personnel. Inputs to the Navy PPBS for military personnel resources are all handled by the Chief of Naval Personnel, dealing either with OP-090 or NAVCOMPT, as appropriate. The claimants also administer the funds provided through the budget process in their resource areas. Exhibits 4 and 5 show the CNO appropriation sponsors and the Navy claimants, by appropriation, for resources in the investment and operating cost categories, respectively.

The ways in which information to support the LRA structure is obtained are discussed both below and in Appendix A. Procedurally, practically all of this information will be obtained from or in coordination with the resource sponsors. In most cases the resource sponsor will rely upon the claimants to prepare the actual data but, in some instances, the data will be

## Exhibit 4. NAVY INVESTMENT APPROPRIATIONS, SPONSORS, AND CLAIMANTS

| Appropriation | Sponsor | Claimant |
|---|---|---|
| Military Construction, Navy (MCN) | DCNO Logistics (OP-04) | NAVFAC |
| Military Construction, Navy Reserve (MCNR) | Director of Naval Reserve (OP-09R) | NAVFAC |
| Aircraft Procurement, Navy (APN) | DCNO Air Warfare (OP-05) | NAVAIR |
| Shipbuilding and Conversion, Navy (SCN) | DCNO Surface Warfare (OP-03) | NAVSEA, SSPO |
| Weapons Procurement, Navy (WPN) | DCNO Surface Warfare (OP-03) | NAVAIR, NAVSEA, SSPO |
| Other Procurement, Navy (OPN) | Program Planning Office (OP-92) | NAVSEA, NAVELEX, NAVAIR, NAVFAC, NAVSUP, SSPO. CNO Fiscal Management Division |
| Personnel and Command Support Equipment Only | | CNO, CINCLANTFLT, CINCPACFLT, CINCUSNAVEUR, CNR. CNT, BUPERS, BUMED, NAVCOMPT, NAVCOMMCOM, NAVINTCOM, NAVWEASERVCOM, OCEANAV, NAVSECGRUCOM |

Sources: Office of the Navy Comptroller, *The Navy Comptroller Manual*, Vol. VII, Budgeting, Chapter III, "Budget Execution," May 1975, p. 3-2, and Department of the Navy, *Programming Manual*, Annex 3, January 1975.

## Exhibit 5. NAVY OPERATING APPROPRIATIONS, SPONSORS, AND CLAIMANTS

| Appropriation | Sponsor | Claimant |
|---|---|---|
| Military Personnel, Navy (MPN) | DCNO Manpower (OP-01) | BUPERS |
| Reserve Personnel, Navy (RPN) | Director of Naval Reserve (OP-09R) | BUPERS |
| Family Housing, Defense (FHD) | DCNO Logistics (OP-04) | NAVFAC |
| Naval Petroleum Reserve (NPR) | Office of Naval Petroleum and Oil Shale Reserves | Office of Naval Petroleum and Oil Shale Reserves |
| Operation and Maintenance, Naval Reserve (O&MNR) | Director of Naval Reserve (OP-09R) | CNO, NAVAIR, BUPERS, NAVSEA, CINCLANTFLT, CINCPACFLT, CNR, NAVFAC |
| Operations and Maintenance, Navy (O&MN) | Program Planning Office (OP-92) | CNO, CINCLANTFLT, CINCPACFLT, CINCUSNAVEUR, CNT, CNM, BUMED, NAVCOMPT, NAVCOMMCOM, NAVINTCOM, BUPERS, SSPO, NAVWEASERVCOM, OCEANAV, NAVSECGRUCOM, NAVAIR, NAVSEA, NAVELEX, NAVSUP, NAVFAC |

Sources: Office of the Navy Comptroller, *The Navy Comptroller Manual*, Vol. VII, Budgeting, Chapter III, "Budget Execution," May 1975, p. 3-2 and Department of the Navy, *Programming Manual*, Annex 3, January 1975.

prepared by the resource sponsor in coordination with mission and appropriation sponsors and the claimants. There is no standard procedure that applies for all resource categories.

Different documents and data displays are produced for different phases of the PPBS cycle. The parts of the POM that are most important in terms of this study are Volume IV, which contains detailed logistics and base operating support data; Annex D, which provides extensive information on the ship maintenance and modernization programs; and Annex E, which covers the aircraft maintenance program.[1] Data contained in the annual budget submittal in which we are interested include all of the investment and operating appropriation budget summary data plus selected "OP" forms and "P" forms that provide more detailed backup data supporting these appropriation totals.

## B. PPBS DATA MANAGEMENT SYSTEMS

The Navy uses two primary data management systems to update the DoD FYDP--the Navy Cost Information System/Five Year Defense Program Subsystem (NCIS/FYDP), and the combined Navy Resource Model and Force Level Analysis Interactive Language System (NARM/FLAIL). In terms of Navy ability to provide the required LRA data elements these systems are important for four reasons.

(1) These systems contain existing automated data bases that can provide some of the data elements for the LRA but by no means all.

(2) These systems provide existing data automation codes and structures that can be amended and restructured to accept additional data that are required for the LRA but are not currently in these systems.

(3) The LRA data elements are reconcilable to the dollar appropriation totals and to the manpower end-strengths in the FYDP, so it seems logical to include the LRA data in the FYDP data bases.

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[1]Department of the Navy, *Program Objective Memorandum*, POM 79.

(4) The LRA is updated at least three times a year coincidental with the major FYDP updates, so an automated centralized data management system would facilitate LRA updates just as the existing NCIS/FYDP and NARM/FLAIL centralized and automated systems facilitate the FYDP updates.

It should be remembered, however, that the NCIS/FYDP and NARM/FLAIL are not the only possible structures within which the Navy can meet its LRA data requirements. There are data in the NCIS/FYDP and the NARM/FLAIL that come from other data systems or directly from analysts (after verification and adjustment to reflect various planning and budgeting constraints). These data could be reported into some other system, as could data not currently reported into the NCIS/FYDP and the NARM/FLAIL. As another alternative, the Navy could designate a point of contact with relevant data sources to report the LRA data elements directly to OSD, or the sources themselves could report directly to OSD. While in the report we have tried to identify the sources for the data currently not reported into the NCIS/FYDP and the NARM/FLAIL, and describe how these additional data could be reported into the existing systems, the results of this research are applicable to other systems. The Navy will have to make the final decision as to what specific LRA data management system, manual or automated, centralized or decentralized, can meet the LRA requirements and at the same time be consistent with Navy resource constraints and management procedures. We have concentrated on the adaptability of the NCIS/FYDP and the NARM/FLAIL to these purposes because we consider them the most logical alternative (an automated, centralized, direct report to OSD), not the only alternative.

The basic building block for resource programming and budgeting in the Navy is information about funding and manpower levels reported at the Unit Identification Code (UIC) level. Each UIC is an activity, command, ship, station, or specialized

function that appears as an entity in the programming system.[1] UICs are assigned to claimants who are responsible for controlling and administering all resources in that assigned area. All input records required to update the DoD FYDP are prepared by these claimants. Using prescribed data fields and codes, these claimants are able to identify projected resource levels by UIC, source of funds (in DoD appropriation detail), authorized manpower end-strengths (officer, enlisted, and civilian), weapon system supported, and procurement or O&M program line item for which the resources are required. Both the NCIS/FYDP and the NARM/FLAIL provide the automated capability to process these data into the data base needed to update the DoD FYDP.

## 1. NCIS/FYDP

The NCIS/FYDP is the basic data management system used to provide the Navy input to the DoD FYDP for the OSD and Congressional budget submissions.[2] Three of the system's input data fields would be especially useful in support of the LRA.

The category stub code (CSC) is a three-digit code used to identify resources in terms of DoD cost category--research and development, investment, or operating. The NCIS/FYDP includes over 200 3-digit category stub codes, 90 percent of which are used to describe activities funded by the O&M appropriations. For these codes, the last two digits are budget classification codes (BCCs), which are elements of an internal, functionally oriented management language used by the Navy in programming, budgeting, and accounting for operating resources. These codes permit identification of resources at both summary and detail levels. By revising current codes and adding new ones so there is a one-to-one correspondence to the LRA functional categories,

[1]Department of the Navy, *The Navy Programming Manual*, March 1975, Appendix H.

[2]For a brief description of the NCIS/FYDP, see Morgan, et al., *A Phase I Report*, p. 99.

the Navy could use this existing data management system to generate many of the data elements required to produce the LRA.

The appropriation code is an eight-digit code that must be used by all claimants to identify the source, by specific Navy appropriation and major budget activity, for projected resources.

The resource category code (RCC) is an eight-digit code that identifies resources by type--material, RDT&E, construction, or personnel. Although the use of these codes is not standardized, claimants have generally established codes on a line-item basis consistent with their management of the resource. In most cases, these codes can be reconciled with the official Navy chart of accounts used in budget preparation and formal appropriation accounting. Weapon system codes are available for use with the material codes. Unfortunately for the purposes of the LRA, these codes (which are provided for ships by type and class, for aircraft by type, model, and series, and for selected independent weapon system) are used primarily with the input of procurement data. As a result, it is not possible currently to identify resources funded in O&M appropriations in terms of weapon systems although these same codes could be used.

Expanded use of the BCC and RCC for existing data fields and in combination with UICs would permit the Navy to input all data elements required to support the LRA into the NCIS/FYDP. For example, once resources are identified by weapon system, the weapon system code should be used with all appropriations. Similarly, once authorized manpower end-strengths are identified by the appropriate LRA function, BCCs should be used with all inputs.

Examples of the current data coding capabilities of these FYDP data systems are provided by Exhibits 6 and 7, which respectively show a procurement information element and an operating information element as they might be coded in the NCIS/FYDP or NARM/FLAIL data bases. Exhibit 6 shows the code

Exhibit 6. PROCUREMENT APPROPRIATIONS LINE ITEM DETAIL IN THE NCIS/FYDP DATA BASE

| | 61 Digit Coding Field for Each Data Element |
|---|---|
| Digits | Code |
| 1-8 | UIC, B2057400 (DD 963 SPRUANCE) |
| 9714 | Blank |
| 15 | OSD Cost Category, 2(Investment) |
| 16-17 | Category Stub Code, BB (Procurement) |
| 18-22 | Blank |
| 23-30 | Resource Category Code, 06020131 (ASW Sonar System AN/SQS-26) |
| 31-33 | Blank |
| 34-35 | Appropriation, 43 (OPN) |
| 36-37 | Budget Activity, 02 (Communication and Electronic Equipment) |
| 38-39 | Budget Sub-Activity, 01 (ASW) |
| 40-41 | Budget Project 04 (Equipment) |
| 42 | Blank |
| 43-50 | Weapon System, 00030100 (Destroyer, DD) |
| 51-52 | Major Claimant, 24 (NAVSEA) |
| 53-61 | Change Code, 010N7294 (Cruiser Destroyer Forces) |

Exhibit 7. OPERATING APPROPRIATIONS LINE ITEM DETAIL IN THE NCIS/FYDP DATA BASE

| | 61 Digit Coding Field for Each Data Element |
|---|---|
| Digits | Code |
| 1-8 | UIC: B6286300 (NAVSTATION, Rota, Spain) |
| 9-14 | Blank |
| 15 | OSI Cost Category: 3 (Operating) |
| 16-17 | BCC: F3 (Station Operations) |
| 18-33 | Blank |
| 34-35 | Appropriation: 31 (O&MN) |
| 36-41 | Appropriation Category: 026120 (General Purpose Forces) |
| 42-50 | Blank |
| 51-52 | Major Claimant: 61 (CINC NAV Europe) |
| 53-61 | Change Code: (As required) |

to identify an item of ASW communications and electronic equipment, specifically an AN/SQS-26 ASW sonar system, purchased for a particular unit identifier code which represents the DD963 Spruance ship class. As can be seen by examining the various codes in the 61-digit coding field, this information element also designates the Other Procurement, Navy, appropriation as the source of funding for the equipment and the Naval Sea Systems Command as the major appropriation claimant. Exhibit 7 identifies station operations services at the Naval Station in Rota, Spain, as funded by the Operations and Maintenance, Navy, appropriation, with the Commander-in-Chief of Naval Forces in Europe as the appropriation claimant. These are typical examples of the level of detail that currently exists for procurement and operating resources in the NCIS/FYDP and NARM/FLAIL.

## 2. NARM/FLAIL

The Navy Force Level Analysis Interactive Language system is a general purpose, online data management system developed by the Navy to manipulate numeric data bases. The Navy Program Planning Office, OP-901, has used the FLAIL system in conjunction with the Navy Resource Model (NARM) to develop a separate data system to support the Navy's development of the POM.[1] This system, NARM/FLAIL, is a multipurpose system used by OP-901 to develop an initial data base for the POM, track and display information on the effects of programming decisions on the use and funding of resources during POM development, produce the Navy input to the DoD POM, produce the FYDP Procurement Annex for each FYDP update, produce the Navy Factors Manual, and satisfy a multitude of special purpose requests in support of various OPNAV offices. The NARM/FLAIL system can process data from various sources (including the NCIS/FYDP and

[1]For a brief description of the NARM, see Morgan, et al., *A Phase I Report*, p. 120.

sponsors) into the data base required to update the DoD FYDP as well as use factors and directly input information to facilitate analysis of alternative program decisions. In order to generate the Navy input to the POM, NARM/FLAIL must contain many of the same data elements as the NCIS/FYDP but, in most cases, data are aggregated into high-level elements. Thus, if desired, the NARM/FLAIL can use many of the BCC, RCC, and weapon system coding capabilities available to the NCIS/FYDP.

## C. BUDGET CLASSIFICATION CODES

Budget classification codes are internal Navy functional categories used to input O&MN data by UIC into the Navy NCIS/FYDP data base.[1] Although BCCs are identified in Volume II of *The Navy Comptroller Manual* as applicable to both O&MN and MPN financed expenses, only O&MN dollars are currently reported. BCCs can be functionally oriented, for both O&MN and MPN resources, and existing Navy Comptroller (NAVCOMPT) instructions in the NAVCOMPT Manual permit the creation and elimination of BCCs as required. The Manual also provides for the use of summary and detail BCCs, the summary BCC giving a single data total for several detail BCCs.

BCCs are a data coding structure within which operating dollars could be reported through the NCIS/FYDP data management system and incorporated into the LRA. Some existing BCCs already identify what are also functional line items in the OSD-LRA structure, but in many cases new BCCs would have to be created if the coding structure were to be used in this way.

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[1]For technical descriptions and definitions of BCCs see *The Navy Comptroller Manual*, Volume II, *Accounting Classifications*, Chapter IV, "Functional Accounts," May 1977. For a descriptive presentation of the relationships among BCCs, the Navy Operations Subsystem, DoDI 7000.5, *The Five Year Defense Program Operations Subsystem*, and the DoD Resource Management System (RMS) for operations, see Morgan, et al., *A Phase I Report*, and Morgan, et al., *A System to Produce a Logistic Resource Annex*.

Table 2 shows the level of operating detail currently available in the NCIS/FYDP; Exhibit 8 illustrates how summary, detail, and new BCCs could support the LRA requirement.

Table 2. O&M DETAIL IN THE NAVY NCIS/FYDP DATA BASE FOR PE 72228, SHIP MAINTENANCE ACTIVITIES (NON-IF)

| BCC | Title | O&MN Appropriations | |
|---|---|---|---|
| | | FY 77[a] | FY 78[a] |
| FA | Maintenance and Repair of Real Property | $ 3,485 | $ 4,185 |
| FB | Minor Construction | 939 | 1,174 |
| RB | Field Operations | 8,683 | 10,083 |
| RG | NAVORD Logistics Support | 3,379 | 288 |
| RJ | Military Support at NIF Activities | 358 | 0 |
| RP | Other NAVSEA Logistics Support | 34,550 | 43,019 |

[a]TOA in thousands of dollars.

BCCs can be made applicable to the OSD-LRA logistic functions and extended to MPN coverage by carrying out the following four steps. First, determine which existing BCCs are already applicable. For example, BCC FA is "Maintenance and Repair of Real Property." Each UIC activity reports O&MN (and O&MNR) dollars for this function to appropriate resource claimants, and the claimants input the FA and UIC coded dollars into the NCIS/FYDP data management system. The total dollars by fiscal year for BCC FA can be extracted from the NCIS/FYDP; these data can be entered directly into the OSD-LRA data base.

Second, ensure that BCCs are currently being utilized efficiently and properly. Particular attention should be paid to the granting of exemptions and use of summary and detail BCCs. Currently, several claimants and UIC activities have received authorization to report some O&MN dollars in BCCs other than those specifically designated for particular functional

## Exhibit 8. USE OF BUDGET CLASSIFICATION CODES TO SATISFY SOME LRA OPERATING DATA REQUIREMENTS

| BCC | Title | Comments |
|---|---|---|
| N1 | Aircraft rework and maintenance (R&M) | This is the only BCC currently used to program dollars in the NCIS/FYDP data base. |
| NA | Airframe rework and maintenance (in-house) | These are detailed BCCs that are in the official published structure of accounts but are not currently used to program resources in the NCIS/FYDP or NARM/FLAIL systems. |
| NB | Airframe rework and maintenance (commercial) | |
| NC | Engine rework and maintenance (in-house) | |
| ND | Engine rework and maintenance (commercial) | |
| NE | Component rework and maintenance (in-house) | |
| NF | Component rework and maintenance (commercial) | |
| NG | Other supporting programs (in-house) | |
| NH | Other supporting programs (commercial) | |
| N? | Modification installations (in-house) | These are new BCC categories that must be created to provide LRA data visibility in the NCIS/FYDP and NARM/FLAIL. |
| N? | Modification installations (commercial) | |
| N? | Equipment maintenance purchased from inter-service facilities | |

categories. For example, BCC F3, "Station Operations," is roughly comparable to the general category called Base Operations Support (BOS). However, some UIC activities and claimants have NAVCOMPT approval to report station operation dollars in other BCCs. If a complete list of exceptions is correctly maintained and updated, it will be possible to extract totals for these exceptions from the NCIS/FYDP and add them to F3 to produce a single base-services O&MN dollar entry for each fiscal year in the OSD-LRA data base. But granting exceptions introduces complexity where complexity is often unnecessary. If a particular UIC's station operation dollars must be distinguished for management convenience, it would be preferable to establish a single summary BCC with the entries for the detail BCC under it summing to the single station operations total for each fiscal year.

The current usage of summary and detail BCCs also requires attention. For example, BCC F4 is a summary BCC that is supposed to contain the sum of O&MN dollars reported in two detail BCCs, FA and FB. However, some UICs report all of their resources in F4 and none in FA and FB, while some report resources separately in FA and FB and none in F4. The detail offered by FA and FB is thus lost because of their combination by some UIC activities into F4.

Third, create new BCCs to display functional details currently submerged in miscellaneous BCCs that contain dollars in more than one functional category. For example, BCC DC is Ships Supplies and Equipage, and it includes O&MN dollars for repair parts, equipage, and general supplies. However, the OSD-LRA structure requires separate identification of maintenance-related repair parts and nonmaintenance consumables. In many cases, the separately identifiable data are currently available at the individual UIC level, but are being aggregated by claimants to fit the BCC that covers more than one functional category. In these instances, the claimants should be required to input data at the detail levels that already exist.

Fourth, create new BCCs for manpower that functionally identify MPN expenses. This procedure utilizes currently existing authority in the NAVCOMPT Manual. Once BCCs are consistent with the OSD-LRA functional structure, and once internal discipline is exercised over the exceptions granted to claimants and activities for BCC use, then BCCs can be created for reporting MPN dollars in each of the appropriate functional categories. Where appropriate, companion MPN BCCs can be created to be consistent with the O&MN BCCs in the particular functional category. For example, separate BCCs should be created for Organizational Ships Maintenance Materials and Manpower.

The general implications of using BCCs to accumulate data for the OSD-LRA are that for O&MN dollars, modifications to the existing BCC structure are required, but in many cases these modifications are minor and merely require activities to report data in the detail at which they manage their O&MN dollars. For MPN dollars, it is necessary to utilize BCCs that are already permitted by the Navy Comptroller. Utilization of the BCC structure provides a logical, comprehensive approach to reporting both operating O&MN and MPN dollars into the NCIS/FYDP data management system in functions consistent with those in the OSD-LRA.

## D. MANPOWER DATA REQUIRED TO SUPPORT THE LRA

The LRA requires that all programmed Navy logistic manpower end-strengths both military and civilian, and their costs, be identified by logistic function. The end-strength data are also required at the major logistic subfunction level (e.g., materiel categories such as ships or aircraft for maintenance). Separate identification of manpower assigned to NIF and non-NIF activities is also required.

Since current DoD FYDP procedures require manpower data only at the level of PEs, and since most PEs do not equate to

LRA logistic functions, the implementation of the LRA will require a significant increase in the quantity of data that must be developed and processed by the Navy for each FYDP update. The exact amount of this increase will depend upon which of several alternatives is adopted for developing and reporting the manpower data required for the LRA. These alternatives are discussed below.

In the Navy, OP-01, DCNO for Manpower, is responsible for developing all data on programmed civilian and military manpower to be entered into the NCIS/FYDP and NARM/FLAIL, and these data are entered by UIC. The military end-strengths are costed at average pay rates in the NARM/FLAIL, still retaining their UIC identification.[1] Civilian end-strengths are not costed in the NARM/FLAIL; the dollars to fund these manpower are primarily O&MN, and each claimant enters data into the NCIS/FYDP and NARM/FLAIL for each UIC (see Exhibit 5).[2] These civilian manpower O&MN dollars are entered into the Navy data systems and displayed in the FYDP along with other O&MN expenses at a single O&MN total for each UIC.[3]

Each Navy UIC is identified with a single PE in the FYDP, and a PE may contain many UICs. Thus, the NARM/FLAIL and NCIS/FYDP can identify military and civilian end-strengths and military manpower funding by UIC and PE, with civilian manpower funding included as part of the O&MN total for each UIC and PE. However, the capability to identify manpower data at the PE and

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[1]There are two average pay rates for each fiscal year, one for officers and one for enlisted men. Each is simply the arithmetic result of taking the officer or enlisted part of the total MPN appropriation for a given fiscal year and dividing it by the officer or enlisted total end-strength for the same given fiscal year. Since end-strengths and appropriations usually differ by fiscal year, different average pay rates are calculated for each fiscal year.

[2]In addition to O&MN, O&MNR and RDT&E may fund civilian manpower.

[3]In the LRA there is no requirement to identify separately the O&MN dollars specifically required to pay civilian personnel.

UIC level is inadequate for LRA data needs, because most PEs and UICs do not equate exactly to LRA logistic functions and subfunctions. Data below the UIC and PE levels are required. Before discussing several alternatives by which such data could be provided, it is useful to examine some of the institutional characteristics of Navy manpower planning and programming.

## 1. Responsibility for Manpower Planning and Programming

Historically, the DCNO for Manpower has been responsible for the planning and programming of military manpower, and in 1977 this office also became responsible for civilian manpower planning and programming. As a result, OP-01 now determines all military and civilan manpower requirements, translates these requirements into funded authorizations, and coordinates with the major claimants to provide the programmed data for the DNFYP and OSD FYDP.

These manpower planning and programming responsibilities are carried out in three OP-01 divisions. The Manpower Requirements Determination Field Liaison Division (OP-12) has the primary responsibility for determining the manpower requirements that are reflected in the various manning documents. During the POM process this is the division responsible for coordinating both civilian and military manpower data.

The Military Manpower Planning and Programming Division (OP-10) is responsible for translating the military manpower requirements developed by OP-12 into authorizations. The process involves taking manning documents and field requests for manpower authorizations and processing these data into Manpower Authorization Documents.[1] This division coordinates military manpower data during DNFYP and OSD FYDP updates other than the POM update.

[1]OPNAV Form 1000/2 is the Manpower Authorization Document. There is a Form 1000/2 for each individual UIC activity in the Navy.

Currently it also coordinates civilian manpower data during these updates, while the recently established Civilian Manpower Planning and Programming Division (OP-14) is being implemented as a fully functioning activity to take over the civilian responsibilities from OP-12. Once in operation, OP-14 will exercise the responsibility for translating the civilian manpower requirements developed by OP-12 into authorizations, and it will coordinate civilian manpower data for the October and January FYDP updates.

## 2. The Planning and Programming Process

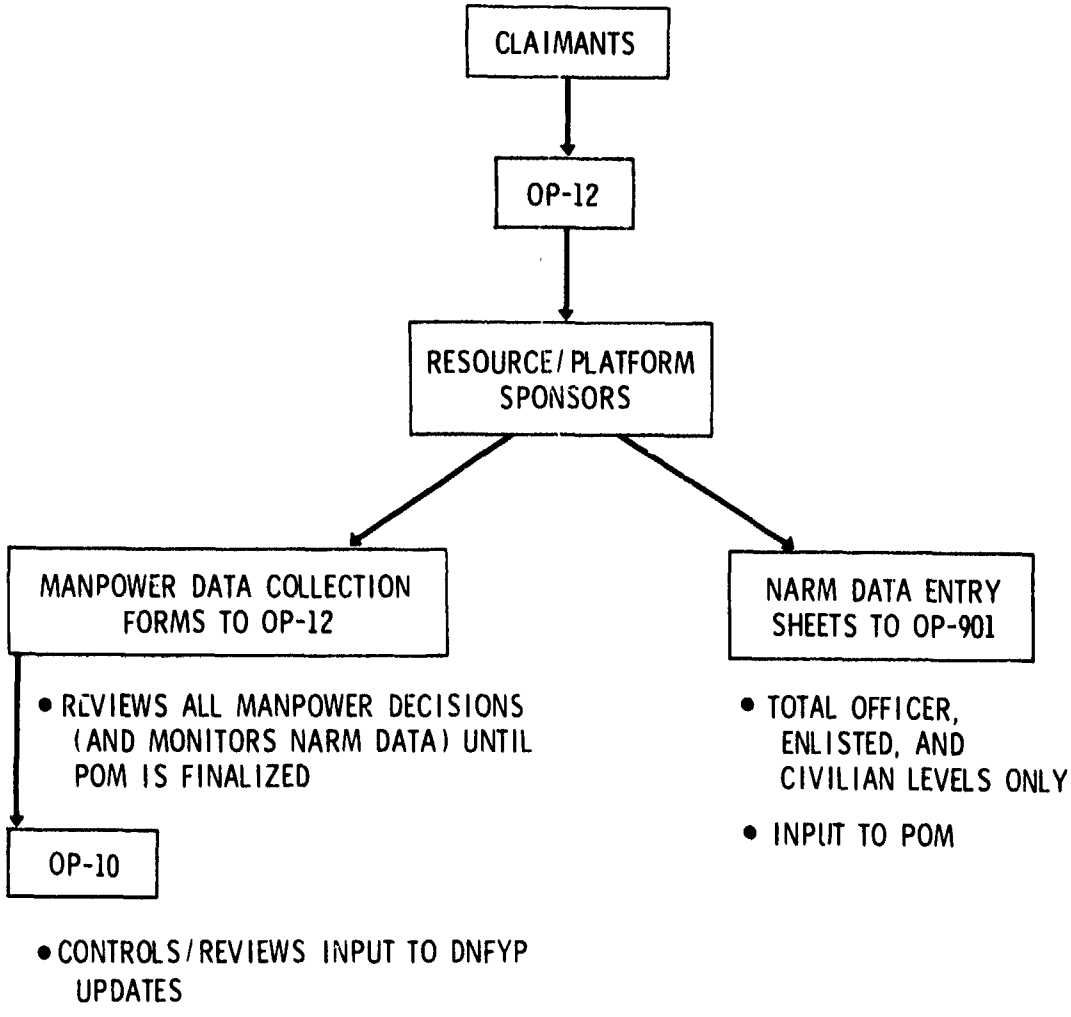
The starting point for each 5-year program update is the total authorized end-strength data base contained in the NARM/FLAIL and the NCIS/FYDP. The planning and programming process essentially involves making incremental changes to this data base.

At POM time, OP-12 receives statements of manpower needs from the claimants, identifies the requested manpower by PE and UIC, and distributes the information to the resource sponsors, who develop the final POM numbers. OP-12 monitors this process throughout the POM development and supplies the final numbers to OP-10. Figure 3 illustrates how the information flow is envisaged for the POM-80 process.

During the remainder of the year, the process is essentially the same, except that OP-10 replaces OP-12 as the coordinator. The effects of all program decisions, which are usually written to address manpower resources in broad categories (e.g., shipyard manpower), are ultimately reflected at the UIC level.

## 3. Manpower Data Sources for the LRA

As shown in Exhibit 9, three basic steps are necessary to develop manpower data sources for the LRA. Each step can be accomplished in one of several alternative ways. The first




For POM-80, OP-12 will coordinate both civilian and military manpower inputs. For other updates, OP-14 is being set up to manage programming civilian manpower although OP-12 may retain some responsibility during the transition.

10 10 78 88

Figure 3. POM 80 MANPOWER INFORMATION FLOW

Exhibit 9. STEPS IN DEVELOPMENT OF MANPOWER DATA SOURCES FOR THE LRA

**STEP 1: IDENTIFY NAVY LOGISTIC MANPOWER TO LRA LOGISTIC FUNCTIONS**

**Alternative 1:** Navy staff analysis of MAPMIS billet files for each LRA update.

**Alternative 2:** Navy staff analysis of Manpower Authorization Documents for each LRA update to identify civilian and military manpower.

**Alternative 3:** SIDS/SHOROC automated functional authorized end-strength system extended to fleet forces.

↓

**STEP 2: IDENTIFY FUNCTIONAL MANPOWER DATA TO UIC AND PE OR MAJOR PROGRAM CATEGORY**

**Alternative 1:** OP-01 staff analysis to identify civilian and military manpower by major force program category.

**Alternative 2:** OP-01 staff analysis to identify civilian and military manpower by function according to UIC and PE.

Note: For each alternative, military end-strengths may be costed at average rates by OP-01, or may be costed at average rates in NARM. Civilian end-strengths not costed since O&MN dollars separately input to NCIS/FYDP by O&MN claimants.

↓

**STEP 3: ENTER DATA INTO LRA DATA BASE**

**Alternative 1:** For each LRA function, input civilian and military end-strengths into NCIS/FYDP and NARM/FLAIL by specially designated non-add PEs or UICs. Costs throughput from OP-01 for military or costed in NARM, or input by O&MN claimants in total O&MN lines.

**Alternative 2:** For each LRA function, input civilian and military end-strengths into NCIS/FYDP and NARM/FLAIL by specially designated non-add PEs or UICs, costs as above. Under each function, input portion of total end-strengths and costs in each major program category.

**Alternative 3:** Enter all manpower data and costs by UIC and BCC.

step requires the Navy to identify logistic manpower according to LRA logistic funtion. Once these manpower are functionally identified, the second step is their identification according to major force program, and perhaps according to UIC and PE. The third and final step is to enter these data into the LRA data base, most logically through the NCIS/FYDP and NARM/FLAIL.

### a. Step One Alternatives

In the past, the Navy has displayed aggregated data on the manpower levels programmed to support specific programs. These data were derived manually by correlating billet/job codes in Manpower Authorization Documents with the program to be supported. For example, in Annex E to POM 79, the Navy used this method to project numbers of personnel filling organizational and intermediate level maintenance billets associated with the aircraft maintenance program. In this case, the Navy used a computerized listing from the OP-01 MAPMIS[1] billet file to identify maintenance resources, although individual Manpower Authorization Documents could have been used to align either individual billets or entire departments with the LRA functions. Although utilizing this method is time-consuming, it is feasible because, following a fairly large one-time effort to develop the initial data base, the incremental changes resulting from various program changes would only have to be posted at this same level. However, while this manual method would work, it would be better to incorporate this added capability into existing automated systems.

An alternate approach to developing the required manpower data to support the LRA involves use of SHORSTAMPS, a system being developed in OP-12 to support the preparation of manning

[1]Manpower and Personnel Management Information System, operated by BUPERS, is the Navy's primary data system for tracking military manpower.

documents for all activities in the shore establishment.[1] SHORSTAMPS involves classifying all functions performed by all activities in the naval shore establishment (the SHOROC structure or dictionary), developing staffing standards by work center, and applying these standards to the functional categories to develop manpower requirements.

Currently, all functions performed by activities in the shore establishment have been classified into 25 mission areas (major functions such as aircraft maintenance, supply and ship repair) and into a total of 210 functional areas. All activities in the shore establishment have identified their manpower according to these categories based on work actually performed. However, since only eight staffing standards (covering approximately 1 percent of total Navy manpower)[2] have been completed, SHORSTAMPS is not yet used to produce manning documents.

In addition to the basic SHORSTAMPS, OP-124 has developed SIDS,[3] a system that currently will permit the Navy to display projected, authorized military, and current onboard civilian personnel by the SHOROC functional categories for the 5-year program. SIDS draws from the MAPMIS billet file for military information. This file contains billet data for all military manpower by UIC and PE and in general is a compilation of total authorized end-strengths as reflected in the Form 1000/2s. SIDS draws from the PADS[4] file for its civilian data. However, this file contains only current onboard data. As a result,

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[1]For a complete description of the Shore Requirements, Standards, and Manpower Planning System (SHORSTAMPS) and the Shore Required Operational Capability (SHOROC) system, see Morgan et al., *A Phase I Study*, pp. 128ff.

[2]Coverage is projected to increase to about 30 percent by the end of FY 79.

[3]Standards Implementation Documentation System. For a brief description, see Morgan, et al., *A Phase I Study*, p. 128.

[4]Personnel Automated Data System. This system is operated by the Navy's Office of Civilian Personnel to track information about total onboard civilian manpower.

SIDS "straightlines" current data for the outyears, although OP-01 has plans to develop the capability to project civilian manpower levels for the FYDP period.

The current SIDS/SHOROC system offers a feasible means of developing all of the manpower data required to support the LRA. This alternative would require the following:

(1) Extend the SHOROC classifications to manpower in the operating forces. This would require the addition of functions peculiar to these units as well as development of decision rules for assignment of personnel whose billet code and jobs performed involve both operator and maintenance tasks. This latter requirement is of prime importance since it has been cited as a major barrier to classifying personnel in the operating forces by function.

(2) Correlate the resulting SHOROC functions with LRA categories.

(3) Expand PADS to incorporate projected civilian end-strength data that are already in the DNFYP.

Once these changes have been made, the output of SIDS would be tapes and printouts, by UIC and PE, of projected authorized end-strengths by function performed.

### b. Step Two Alternatives

Once programmed manpower data are correlated with the LRA logistic functions, whether through Navy staff analysis of MAPMIS billet files, manpower authorization documents, or an automated functional end-strength data system like SIDS/SHOROC, they must be identified at least according to major force program category if not by UIC and PE. The minimum requirement could be met by summing the functional manpower data by major force program category. Identification by UIC and PE, however, would require substantially more data elements than the minimum force program category identification. In both cases, military manpower costs would also be identified along with the civilian

and military end-strengths. As stated earlier, civilian manpower costs are not separated from the O&MN appropriations in each PE and UIC.

### c. Step Three Alternatives

Once programmed manpower levels are correlated with the functional categories and identified by major program category, at a minimum, procedures must be developed to incorporate these data into the NCIS/FYDP and the NARM/FLAIL. One approach would be to require that all manpower data be entered using BCCs, as is currently done for O&MN funds. Both end-strengths and funds in the MPN appropriation would use the codes. Using this method for military end-strengths is facilitated by the fact that these are currently costed statistically in the NARM/FLAIL by applying average rates to end-strengths produced by OP-01.

The above approach to incorporating manpower end-strength and funding data by LRA function into the NCIS data base offers the distinct advantage of assuring that the data extracted for the LRA can be easily reconciled with the DNFYP. Also, all data would be identified routinely by UIC, PE, BCC, and (if required) weapon system, and could be retrieved to support many different kinds of analyses. This approach would result in an increase both in the volume of manpower data that would have to be entered into the NCIS by OP-01 and in the magnitude of the data-management workload handled by the NCIS/FYDP.

An alternative method could be adopted that would minimize the increased workload and yet would satisfy the essential LRA requirements. This method would still require that OP-01 identify all manpower by LRA function, but only according to major force program category, and then input the data into the NCIS/FYDP by specially designed non-add UICs and PEs. Once this data base were available, OP-01 could produce the LRA manpower data by summing total end-strengths by each major category in the LRA

structure.[1] Also, if it were considered desirable to show the dollars programmed to fund these manpower levels by logistic function, average rates could be applied to these summary end-strengths. These summary data would be entered into the NCIS/FYDP on a non-add basis. OP-01 would continue to enter total military and civilian end-strengths into the NCIS by UIC/PE since these data are required to produce the FYDP updates.

## E. PROCUREMENT

The LRA includes information on the following categories of logistic support equipment provided to the Navy through procurement appropriations:

- Initial and replenishment spares and repair parts
- Modification and conversion hardware for weapon systems
- Munitions and war consumables
- Industrial preparedness procurement
- Logistic support equipment.

The processes used to plan, program, and budget procurement resources in the Services are highly centralized. Since many items financed by the procurement appropriations are very expensive, the Service Headquarters and OSD require that the appropriations for such items be quite visible. The Procurement Annex is published with each updating of the FYDP to provide up-to-date displays by line item of hardware purchased through the procurement appropriations.

Since procurement line-item information is available in the NCIS/FYDP and the NARM/FLAIL (which produces the Procurement Annex), the major problem in producing the procurement data for the LRA is in identifying the line items by logistic category

[1]OP-01 could also sum the end-strengths for each functional category by major program/FYDP if it is desired to identify logistic manpower end-strengths on this basis. Identifying these end-strengths by PE would increase the amount of work required of OP-01 to the point that it might be almost as much as that involved in the method described.

and by weapon system for the maintenance, modification, and technical support of equipment function. In some cases budget activity codes have been established that permit easy identification of these line items. For example, APN-06 in the Aircraft Procurement Appropriation covers aircraft initial and replenishment spares and repair parts; resources shown in this BAC can be identified to the aircraft materiel category. Also, initial spares are shown by weapon system in BACs APN-01, 02, 03, and 04, which permits direct identification of this category of logistic support equipment to the proper selected weapon system.

The major difficulties in providing procurement data for the LRA relate to the allocation of OPN-financed hardware and the identification of replenishment spares and repair parts data by weapon system. Some OPN resources can be easily identified as a group according to a specific materiel category. For example, OPN-01 covers ships support equipment, so that all of the initial and replenishment spares procured through OPN-01 can be categorized as ships materiel. Other OPN financed resources, such as OPN-02, "Communications and Electronics Equipment," may belong to more than one materiel category; methods must be devised to categorize OPN-02 spares data properly.

The DoD PPBS does not require that replenishment spares data be shown by individual weapon system. Furthermore, the Services are reluctant to program these resources by weapon system, since there is considerable uncertainty as to future demand and failure rates that affect replenishment spares requirements. The Services quite reasonably wish to retain a high degree of flexibility in managing replenishment spares resources.

There is another problem in terms of the definition and identification of logistic support equipment. Much of this equipment is purchased along with the weapon system and will

not appear in an LRA. Other equipment, such as computers, may have several functions and cannot be identified exclusively as logistic support.

In order to identify procurement line items by materiel category and weapon system, we recommend the following:

(1) Those lines that can clearly be related to a given materiel category or weapon system should be so identified. In some cases entire BACs can be identified as relating to specific materiel categories and weapon systems. For other BACs it may be necessary to examine individual line items to determine how they should be shown.

(2) Some resources can be related to given materiel categories or groups of weapon systems, but direct identification by BAC or examination of line items is not possible. In these cases identification will depend on analytic judgment or statistical methods.

(3) Some resources cannot be identified by materiel category or weapon system. No attempt should be made to distribute these resources by category or system; they should be retained in an "Other Equipment" grouping.

Procurement items purchased for "Logistic Support of Post D-Day Combat Sustainability" are highly visible. Resource sponsors should encounter no difficulty in providing information on these items for regular LRA updates even though the NCIS/FYDP and NARM/FLAIL do not require the LRA level of detail as a permanent feature of their data bases.

## F. WEAPON SYSTEM DATA

In addition to identifying resources (dollars and manpower) programmed to support the maintenance, modification, and technical support of equipment functional category according to materiel category,[1] the Navy LRA requires that some of the

[1]Manpower data in category IA2 (see Exhibit 3) will be identified by facility only.

dollar resources be further identified by weapon systems by type and model (e.g., F-4, F-14) or ship class (e.g., DD-963, SSN-688). It is not necessary to show logistic manpower by weapon system. OSD will provide the list of specific weapon systems by which resources are to be identified with the LRA implementation instructions.

In most cases, the information needed to show these resources by weapon system is currently available, although in some cases allocation by use of statistical methods will be required. A discussion of how the Navy could provide the required data elements is contained in Appendix A. The following LRA functional categories are affected by this requirement:

- Depot Maintenance and Modification Installation
- Sustaining Engineering and Technical Support
- Intermediate-Level Maintenance
- Organizational-Level Maintenance
- Initial Spares and Repair Parts (Procurement)
- Replenishment Spares and Repair Parts (Procurement)
- Modification Hardware (Procurement).

## G. SUMMARY

The Navy PPBS includes well-defined procedures to examine regularly the force structure alternatives, logistic and manpower support requirements, and funds required for approved programs. Since forces and resources are budgeted and programmed over an extended time period, this feature of the system permits the resource estimator and programmer to apply an incremental approach to the problem of determining resource requirements at the periodic intervals dictated by the PPBS. Even though zero-base budget methods are employed, there is always an approved baseline against which new resource requirements can be measured.

The LRA will be a regular product of the Navy PPBS. The requirement to produce the LRA will not affect the basic Navy PPBS procedures greatly. The major change will be that logistic dollar and manpower resources currently programmed in aggregate groupings in the DNFYP and the OSD FYDP will have to be identified explicitly in unique groupings defined as logistic support categories. The current PPBS data systems can be used to provide the LRA data, and those resource sponsors and claimants curently responsible for the PPBS should be involved in implementing the LRA.

The greatest effect of the LRA requirement on the Navy PPBS will be that additional data on logistic operations will have to be obtained at a greater level of detail than is currently required. The basic data are already available, but additional work will be required to establish procedures to obtain the data, process it into an LRA data base, and provide it to data users, including OASD/MRA&L. Some prorations of resources to logistic materiel categories and weapon system will have to be performed.

The principal change required of the Navy will be expansion of the use of budget classification codes. Then data systems can be implemented, incorporating some direct program data and some prorated data that will fulfill all LRA requirements. These data will constitute the data base that can be used to produce the formal Logistic Resource Annex to the FYDP.

# Chapter III

## LRA DATA BASE COVERAGE AND REFERENCE GUIDE

In Chapters I and II we presented the proposed Navy LRA structure and discussed those Navy financial and manpower data systems that would provide data to support this structure. At this point it is appropriate to identify more specifically the kinds of resource information to be included in the LRA data base. This information base will make possible the development of numerous displays consistent with the basic LRA structure. These would include a complete display of financial and manpower resources for all LRA functional categories and specified weapon systems. This resource information will be identified specifically in the data element reference guide that is provided at the end of this chapter.

### A. THE DATA BASE TO SUPPORT THE NAVY LRA

Tables 3 and 4 identify the data elements necessary to the LRA data base by logistic function as shown in Exhibit 3.[1] The data base required to support the LRA may be thought of as a multidimensional matrix in which each dimension represents one type of information that must be provided for each data input. Each cell of the matrix represents a data element. Taken together, these data elements illustrate the relationships between appropriations, manpower, funding, and other factors relevant to Navy logistic resources.[2]

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[1]The four major categories in Exhibit 3 have been divided into two tables merely for convenience. Table 3 covers only Part I of Exhibit 3; all other categories are in Table 4.

[2]For an expanded discussion of this data base concept, see Morgan, et al., *A System to Produce a Logistic Resource Annex*, pp. 15-16.

All data on programmed dollar resources must be identified by DoD appropriation and fiscal year. These dollars are Navy resources that are programmed either to purchase services from commercial, interservice, or industrial-fund activities (i.e., customer dollars) or to provide services directly. Data on programmed manpower levels must be projected authorized end-strengths by fiscal year as reflected in the DoD FYDP.

In addition to these general requirements for data entries, individual functional categories may require other particular data. For example, the NIF dollars shown in depot maintenance materiel categories (aircraft, ships, missiles) in the LRA structure are customer funds used to purchase services from the NIF activities. The NIF billing rates that are charged against these customer funds do not include the costs of military personnel and major investment items for NIF facilities, so these costs must be shown elsewhere in the LRA. The MILPERS costs for military personnel assigned to NIF activities are shown in the "Manpower in Navy Organic Depot Level Maintenance Activities" function, and the investment costs are shown in the applicable equipment procurement or facilities construction functions.

The data base needed to support the Navy LRA requires a significant increase in the volume of data that must be prepared by the Navy to support each FYDP update. Most of the data required to support the LRA are already available within the Navy. Additional work is required to formulate these data for entry into the LRA data base and, in many cases, statistical procedures will be required to allocate individual data elements. Finally, revised input procedures and more careful use of procedures will be required to use the NCIS/FYDP as the primary data management system to generate the LRA. The NCIS/FYDP appears to be capable of supporting the LRA without major modification to its basic structure and concept, its input data fields, or its input coding formats. However, the CNO must

# Table 3. OVERVIEW OF L
# SUPPORT OF PE

| Logistic Function[a] | Appro-priations | Navy Funds Identified Separately by | | | | | Selected Weapon System Supported |
|---|---|---|---|---|---|---|---|
| | | Support of Marine Aircraft | Type of Activity Projected to Perform Work | | | | |
| | | | Navy IF | Navy Non-IF | Commercial | Inter-Service | |
| MAINTENANCE, MODIFICATION AND TECHNICAL SUPPORT OF EQUIPMENT[d] | | | | | | | |
| Depot-Level Maintenance and Modification/Alteration Installation | X | X | X | X | X | X | X |
| Manpower in Navy Organic Depot-Level Maintenance Facilities[e] | | | | | | | |
| Sustaining Engineering and Technical Support[f] | X | X | X | X | X | X | X |
| Intermediate-Level Maintenance | X | | | X | | | X |
| Organizational/Unit-Level Maintenance | X | | | X | | | X |
| Initial Spares and Repair Parts (Procurement) | X | X | | | | | X |
| Replenishment Spares and Repair Parts (Procurement) | X | X | | | | | X |
| Modification/Conversion Hardware and Alteration Materiel (Procurement)[g] | X | X | X | X | X | | X |
| SUPPLY SYSTEM OPERATIONS | | | | | | | |
| Depot-Level Storage and Distribution Activities | X | | | | | | |
| Central Inventory Management Activities | X | | | | | | |
| Procurement Operations and Contract Administration | X | | | | | | |
| Supply Operations | X | | | | | | |
| TRANSPORTATION | | | | | | | |
| Second Destination Transportation | X | | | | | | |
| Airlift Operations (MAC)[h] | | | | | | | |
| Sealift Operations (MSC) | | | X | | | | |
| Traffic Management and Terminals (MTMC) | | | | | | | |
| Transportation Services | X | | | X | | | |
| LOGISTIC SUPPORT OF FORCE OPERATIONS AND TRAINING | | | | | | | |
| Fuel | X | | | | | | |
| Personnel Support Materiel | X | | | | | | |
| Other Consumable Supplies and Materials | X | | | | | | |
| Munitions | X | | | | | | |

[a] See Exhibit 3 for complete list of all functions and subfunctions.

[b] OSD will designate the specific aircraft (by TMS), ships (by class), and missile (by type) to which resources must be identified.

[c] For all military personnel assigned to IF activities, MILPERS dollars will be shown since these costs are not included in rates used to bill customers.

[d] By materiel groupings. A materiel category is a grouping of homogenous items of materiel. The LRA groups the categories prescribed by Enclosure 2 of

[e] Manpower will be listed by major type of IF facility (e.g., NARF's, naval shipyards) within the materiel category.

[f] Includes both depot and intermediate level activities. Resources will be separately identified for each level.

[g] For the aircraft, ships, and missile materiel categories, resources will be identified by type of mod/alt as shown in Exhibit 3. For all materiel cat basis since these resources are included in aggregate totals presented elsewhere in the LRA.

[h] No Navy resources are programmed to operate MAC.

# Table 3. OVERVIEW OF LRA DATA BASE COVERAGE: LOGISTIC SUPPORT OF PEACETIME MATERIEL READINESS

| | Navy Funds Identified Separately by | | | | | | Navy Manpower Identified Separately by | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Type of Activity Projected to Perform Work | | | | Assigned to NIF Activities | | | Assigned to Non-NIF Activities | | | |
| Appropriations | Support of Marine Aircraft | Navy IF | Navy Non-IF | Commercial | Inter-Service | Selected Weapon System Supported[b] | Military[c] | Civilian | Total | Military | Civilian | Total | |
| tion X | X | X | X | X | X | X | | | | | | | |
| | | | | | | | X | X | X | X | X | X | |
| X | X | X | X | X | X | X | X | X | X | X | X | X | |
| X | | | X | | | X | | | | X | X | X | |
| X | | | X | | | X | | | | X | X | X | |
| X | X | | | | | X | | | | | | | |
| X | X | | | | | X | | | | | | | |
| X | X | X | X | X | | X | | | | | | | |
| X | | | | | | | | | | X | X | X | |
| X | | | | | | | | | | X | X | X | |
| X | | | | | | | | | | X | X | X | |
| X | | | | | | | | | | X | X | X | |
| X | | | | | | | | | | | | | |
| | | X | | | | | X | X | X | | | | |
| | | | | | | | X | X | X | | | | |
| X | | | X | | | | | | | X | X | X | |
| X | | | | | | | | | | | | | |
| X | | | | | | | | | | | | | |
| X | | | | | | | | | | | | | |
| X | | | | | | | | | | | | | |

missile (by type) to which resources must be identified.

l be shown since these costs are not included in rates used to bill customers.

tems of materiel. The LRA groups the categories prescribed by Enclosure 2 of DoDI 4151.15 into seven summary categories as shown in Exhibit 3.

shipyards) within the materiel category.

separately identified for each level.

be identified by type of mod/alt as shown in Exhibit 3. For all materiel categories, mod installation and spares costs will be shown on a non-add ewhere in the LRA.

# Table 4. OVERVIEW OF LRA DATA BASE: ALL OTHER LOGISTIC SUPPORT CATEGORIES

| Logistic Function[a] | Navy Funds Identified Separately By | | | | Navy Manpower Identified Separately By | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Type of Facility Projected to Perform Work | | | Assigned to NIF Activities | | | Assigned to Non-IF Activities | | |
| | Appropriations | Navy IF | Navy Non-IF | Commercial | Military | Civilian | Total | Military | Civilian | Total |
| LOGISTIC SUPPORT OF POST D-DAY COMBAT SUSTAINABILITY | | | | | | | | X | X | X |
| War Reserve Stockage | X | X | X | X | X | X | X | X | X | X |
| Industrial Preparedness | | | | | | | | | | |
| *Ammunition Production Base Investment (Procurement)* | X | | | | | | | | | |
| Other Industrial Facilities Investment (Procurement) | X | | | | | | | | | |
| Manufacturing-Technology (Procurement) | X | | | | | | | | | |
| Industrial Preparedness Operations | X | | | | | | | X | X | X |
| LOGISTICS MANAGEMENT AND SUPPORT ACTIVITIES | | | | | | | | | | |
| Logistic Management Headquarters | X | | | | | | | X | X | X |
| Logistic Support Equipment (Procurement) | X | | | | | | | | | |
| Other Central Logistic Support | | | | | | | | | | |
| Property Disposal | X | | | | | | | | | |
| Inactive Equipment Storage and Maintenance | X | | | | | | | X | X | X |
| Other Logistic Activities[b] | X | X | X | | X | X | X | X | X | X |
| INSTALLATIONS AND FACILITIES SUPPORT | | | | | | | | | | |
| Facilities Construction (Less Housing) | X | | | | | | | | | |
| Housing | X | | | | | | | | | |
| Real Property Maintenance Activities | X | | | | | X | | | X | X |
| Base Operations: Other Services and Support | X | | | | | | | X | X | X |

[a]See Exhibit 3 for complete list of all functions and subfunctions.

[b]This category includes all FYDP Program 7 resources not included elsewhere in the LRA.

require expanded and mandatory use of existing codes, and additional codes will have to be developed so that each entry will define one data element needed to support the LRA.

## B. DATA ELEMENT REFERENCE GUIDE

We summarize below the three basic methods of obtaining the necessary data for the LRA; one for procurement resources, one for central- and field-managed operating resources, and one for construction and housing resources. For procurement resources, the Procurement Annex and the files and management materials of various resource sponsors are the primary data sources. Central- and field-managed operating resources can be related to LRA functional categories through the budget classification code structure and the detailed programming and management data utilized by resource sponsors and claimants. Finally, data for construction and housing resources are already available in the necessary LRA detail in the Navy FYDP data bases.

This summary is derived from the detailed information presented in Table 5, the Navy LRA Data Element Reference Guide. This guide identifies the locations of the necessary data, the reporting channels, and the methods of calculation or estimation of data for each logistic function in the LRA. A full description of each function and the associated data elements are presented in Appendix A.

## SUMMARY OF BASIC METHODS OF OBTAINING NAVY LRA DATA

**Procurement Resource Data**

To obtain these data:

-- Use **Procurement Annex information** with greater detail from resource sponsors--available in budget backup and program management displays.

-- Allocate categories of resources by **budget activities** and, in some cases, subactivities to materiel categories and weapon systems.

-- Use existing **Resource Category Codes** and create new RCCs.

**Central- and Field-Managed Operating Resource Data**

To obtain these data:

-- Use some data available by **FYDP Program Element.**

-- Use **budget forms** for some data elements and for allocation factors.

-- Acquire through **resource sponsor analyses.**

-- Use existing **Budget Classification Code** structure with full implementation of existing BCCs and creation of new BCCs.

**Construction and Housing:**

To obtain these data:

-- Use standard **PPBS and budget documents.**

Tab

| LOGISTIC FUNCTION[a] | APPLICABLE DATA SYSTEMS | REQUIRED MODIFICATIONS TO EXISTING SYSTEMS | IMPLEMENTATIONS REQUIRED OF PLANNED SYSTEMS | ALLOCATIONS REQUIRED |
|---|---|---|---|---|
| I. LOGISTIC SUPPORT OF PEACETIME MATERIEL READINESS<br>A. MAINTENANCE, MODIFICATION AND TECHNICAL SUPPORT OF EQUIPMENT<br>1. Depot-Level Maintenance and MOD / ALT Installation<br>a. Aircraft | NCIS / FYDP<br>NARM / FLAIL<br>POM Annex E | BCC N1 must not be used to enter total aircraft depot maintenance into data bases; instead, detail BCCs which already exist but are not used must be used to enter O&MN dollars. New BCCs must be created to enter MODs installation and purchases of depot services from interservice facilities. | None | Component repair and oth maintenance and support dollars must be allocate to weapons systems. The VAMOSC historical data provide a source which could be the basis for p rating factors to weapon system. |
| b. Ships | NCIS/FYDP<br>NARM/FLAIL<br>POM Annex D<br>Procurement Annex | New BCCs that equate to LRA categories will have to be developed. | None | Component repair and oth maintenance and support dollars must be allocate to weapons systems. The VAMOSC historical data could form the basis for prorating factors. |
| c. Missiles | NCIS/FYDP | BCCs and RCCs will have to be created to accept new detailed data in the four LRA line entries shown. | None | Component repair and ot maintenance and support will have to be allocat to weapons systems. |
| d. Combat Vehicles | None | None | None | None |
| e. Weapons and Ordnance<br>f. Electronics and Telecommunications Equipment<br>g. Other Equipment | NCIS/FYDP | BCCs and RCCs will have to be created to accept new detailed data in the materiel categories shown. | None | Component repair and maintenance and suppo will have to be alloc to weapons systems. |
| 2. Manpower in Navy Organic Depot Level Maintenance Activities | NCIS/FYDP<br>NARM/FLAIL | None | None | None |

[a]See Exhibit 3 for complete list of all functions and subfunctions.

[b]All resources for the reserve forces appropriated in separate reserve appropriations will be included in the proper category along with the regular service-funded resources.

# Table 5. NAV. LRA DATA ELEMENT REFERENCE GUIDE

| IMPLEMENTATIONS REQUIRED OF PLANNED SYSTEMS | ALLOCATIONS REQUIRED | NAVY STAFF ANALYSIS REQUIRED | APPROPRIATIONS COVERED[b] | REMARKS |
|---|---|---|---|---|
| None | Component repair and other maintenance and support dollars must be allocated to weapons systems. The VAMOSC historical data provide a source which could be the basis for prorating factors to weapon system. | OP-514 and NAVAIR will have to develop prorating schemes to distribute compponent repair and other maintenance and support dollars to weapons systems. Analysis is required to develop methods to enter APN data into the NCIS/FYDP by RCC for MODs installed on commercial contract. | O&MN<br>APN | POM Annex E currently identifies depot maintenance dollars in the five lines required, but the data are not input into the NCIS/FYDP or NARM/FLAIL. All required data can be identified by weapons system except for component repair and other maintenance and support, which must be allocated. |
| None | Component repair and other maintenance and support dollars must be allocated to weapons systems. The VAMOSC historical data could form the basis for prorating factors. | OP-043 and NAVSEA will have to develop prorating techniques to distribute component repair and other maintenance and support dollars to weapons systems. | O&MN<br>SCN<br>OPN | Current BCCs that equate to LRA line entries include F1, "Ship Overhaul," F2, "RA/TA," PU, "FMP." All required data can be identified by weapons system except component repair and other maintenance and support, which must be allocated. |
| None | Component repair and other maintenance and support will have to be allocated to weapons systems. | OP-04 will have to develop additional detail line items to display resources in disaggregated categories that can be aligned with the LRA categories. OP-04 will have to develop component repair and other maintenance and support weapons system allocation techniques. | O&MN<br>WPN | Resources for depot maintenance for missiles are managed by program line items, several of which are aggregated resources that are not displayed separately for missiles or in the four missiles LRA lines. All required data can be identified by weapons system, except component repair and other maintenance and support, which must be allocated. |
| None | None | None | None | Navy finances no equipment in this materiel category. |
| None | Component repair and other maintenance and support will have to be allocated to weapons systems. | OP-04 will have to develop additional detail line items to display resources in disaggregated categories that can be aligned with the required LRA material categories. OP-04 will have to develop component repair and other maintenance and support weapon system allocation techniques. | O&MN<br>WPN | Resources for depot maintenance for these materiel categories are managed by aggregated resource line items that do not separately identify materiel categories. |
| None | None | None | MPN for military in IF activities. | Authorized civilian and military end-strengths are identifiable at the PE level in the FYDP and by UIC in the Navy NCIS. Costs for military personnel in industrially funded activities will also be shown in this category, because if not shown here they will not be captured elsewhere in the LRA. |

| LOGISTIC FUNCTION[a] | APPLICABLE DATA SYSTEMS | REQUIRED MODIFICATIONS TO EXISTING SYSTEMS | IMPLEMENTATIONS REQUIRED OF PLANNED SYSTEMS | ALLOCATIONS REQUIRED |
|---|---|---|---|---|
| 3. Sustaining Engineering and Technical Support | NCIS/FYDP and NIF A-2 Budget Exhibit | New BCCs are required to obtain total sustaining engineering and technical support O&M dollars. | None | Total manpower must be all ed to weapons systems, pe using NIF Budget Exhibit to develop factors. |
| 4. Intermediate-Level Maintenance<br>5. Organizational-Level Maintenance | NCIS/FYDP NARM/FLAIL POM Annexes OPTAR Statements | New BCCs are required for maintenance materiel in various materiel categories to separate maintenance materiel from nonmaintenance materiel. | SHORSTAMPS manpower classification system extended to operating forces could provide an automated system to identify Navy manpower by function. | If SHORSTAMPS not imple mented, materiel category allocations of total manpo and materiel required. D derived through staff anal |
| 6. Initial Spares and Repair Parts (Procurement) | Procurement Annex by BAC | None | None | BAC OPN-02 must have ir spares allocated to major egories of equipment whi can then be aligned to m iel categories. If desire line items of equipment i BACs, other than in APN SCN, could be allocated weapons systems. |
| 7. Replenishment Spares and Repair Parts (Procurement) | Procurement Annex by BAC | None | None | BACs can be aligned to m iel categories, but then must be allocated to wea system. Statistical meth using consumption or ope ing hours data could be veloped for allocations. |
| 8. Modification/Conversion Hardware and Alteration Materiel (Procurement)<br>a. Aircraft | NCIS/FYDP NARM/FLAIL OP-506 Staff | None | None | Modifications will be dist uted to categories based predominance of purpose |
| b. Ships | NCIS/FYDP NARM/FLAIL Procurement Annex FMP back-up data | None | None | None |

[a]See Exhibit 3 for complete list of all functions and subfunctions.

[b]All resources for the reserve forces appropriated in separate reserve appropriations will be included in the proper category along with the regular service-funded resources.

## Table 5. Continued

| | IMPLEMENTATIONS REQUIRED OF PLANNED SYSTEMS | ALLOCATIONS REQUIRED | NAVY STAFF ANALYSIS REQUIRED | APPROPRIATIONS COVERED[b] | REMARKS |
|---|---|---|---|---|---|
| total cal | None | Total manpower must be allocated to weapons systems, perhaps using NIF Budget Exhibit A-2 to develop factors. | OP-04 AND SYSCOM staffs must develop factors to allocate sustaining engineering and technical support manpower to weapons systems. | O&MN<br>MPN | Includes both depot and intermediate-level activities. |
| ance ries rom | SHORSTAMPS manpower classification system extended to operating forces could provide an automated system to identify Navy manpower by function. | If SHORSTAMPS not implemented, materiel category allocations of total manpower and materiel required. Data derived through staff analyses. | OP-04, OP-05, and SYSCOMs would provide staff analyses to provide maintenance manpower if SHORSTAMPS not implemented. If SHORSTAMPS implemented, staff analysis still required for some allocations. | O&MN<br>MPN | Data for ships and aircraft maintenance manpower and materiel dollars were produced by staff analyses and reported in FY 79 POM Annex D (Ships) and E (Aircraft). Annexes for other materiel categories do not currently exist. |
| | None | BAC OPN-02 must have initial spares allocated to major categories of equipment which can then be aligned to materiel categories. If desired, line items of equipment in BACs, other than in APN and SCN, could be allocated to weapons systems. | BACs must be assigned to materiel categories. Allocation procedures to get some BACs by materiel category and weapons system must be developed. | OPN<br>WPN<br>SCN<br>APN | Most BACs clearly relate to materiel categories. For those that do not, decisions must be made to assign them to materiel category. As an example, IDA recommends that spares and repair parts in BAC OPN-01 be shown entirely as ship spares even though a small portion is for shipyard modernization equipment. WPN-01 and WPN-02 spares should be shown in the Missiles category, and WPN-03 and WPN-04 in Weapons and Ordnance. |
| | None | BACs can be aligned to materiel categories, but then data must be allocated to weapons system. Statistical methods using consumption or operating hours data could be developed for allocations. | Resource sponsors should develop allocation methodologies to distribute replenishment spares to weapons systems in cooperation with OP-41. | OPN<br>WPN<br>APN | BAC assignments to materiel categories must be made, as for initial spares. |
| | None | Modifications will be distributed to categories based on predominance of purpose. | OP-506 and NAVAIR can readily identify modifications by aircraft and by modification category. | APN<br>O&MN | Aircraft modification equipment is procured from BACs APN-1 (update MODS) and APN-5. O&MN installation dollars will be shown as non-add since they will be included on an add basis in section 1A1 above. |
| | None | None | None | SCN (Conversions)<br>OPN (Alterations)<br>O&MN | Data by ship class for conversions shown directly in Procurement Annex. Alterations are carried out under the Fleet Modernization Program (FMP), and are shown by alteration type and ship in the OP-04 FMP back-up data for all FYDP years. O&MN installation dollars will be shown as non-add since they will be included on an add basis in section 1A1 above. |

| LOGISTIC FUNCTION[a] | APPLICABLE DATA SYSTEMS | REQUIRED MODIFICATIONS TO EXISTING SYSTEMS | IMPLEMENTATIONS REQUIRED OF PLANNED SYSTEMS | ALLOCATIONS REQUIRED |
|---|---|---|---|---|
| c. Missiles | NCIS/FYDP NARM/FLAIL Procurement Annex | None | None | OP-04 must align the data the LRA categories. |
| d. Combat Vehicles | None | None | None | None |
| e. Weapons and Ordnance | NCIS/FYDP NARM/FLAIL Procurement Annex | None | None | None |
| f. Electronics and Communications | NCIS/FYDP NARM/FLAIL Procurement Annex | None | None | None |
| g. Other Equipment | NCIS/FYDP NARM/FLAIL Procurement Annex | None | None | None |
| B. SUPPLY SYSTEM OPERATIONS<br>1. Depot-Level Storage and Distribution Activities | NCIS/FYDP NARM/FLAIL | None | None | None |
| 2. Central Inventory Management Activities | NCIS/FYDP NARM/FLAIL | None | None | None |
| 3. Procurement Operations and Contract Administration Services | NCIS/FYDP NARM/FLAIL | Enforce use of BCCs SC, S1, S2 to input O&MN resources. Create a new BCC to input other procurement operations. | SHORSTAMPS manpower classification system extended to operating forces could provide an automated system to identify Navy manpower by function. | None |

[a]See Exhibit 3 for complete list of all functions and subfunctions.

[b]All resources for the reserve forces appropriated in separate reserve appropriations will be included in the proper category along with the regular service-funded resources.

## Table 5. Continued

| O | IMPLEMENTATIONS REQUIRED OF PLANNED SYSTEMS | ALLOCATIONS REQUIRED | NAVY STAFF ANALYSIS REQUIRED | APPROPRIATIONS COVERED[b] | REMARKS |
|---|---|---|---|---|---|
| | None | OP-04 must align the data to the LRA categories. | None | WPN<br>O&MN | Data available to show equipment procurement costs for missile modifications by fiscal year and by equipment item. O&MN installation dollars will be shown as non-add since they are already included in 1A1 above. |
| | None | None | None | None | Not applicable to Navy. |
| | None | None | OP-04 should aggregate procurement data into a single line item. | WPN<br>O&MN | Data would not be displayed by weapons system. O&MN installation dollars shown as non-add since they are already included in 1A1. |
| | None | None | OP-04 will have to verify that each OPN-02 line item is not an FMP item. If FMP related, it will have to be excluded. | OPN<br>O&MN | Specifically, the equipment shown in this category should be that purchased in BAC OPN-02, "Communication and Electronic Equipment," except for any items already displayed in the FMP. O&MN installation dollars shown as non-add since they are already included in 1A1. |
| | None | None | OP-04 will have to verify that items in this category are not FMP items or electronics and communications equipment items. | OPN<br>O&MN | This category covers all modifications to equipment that are not included in the other materiel categories. O&MN installation dollars shown as non-add since they are already included in 1A1. |
| | None | None | None | O&MN<br>O&MNR<br>MPN<br>RPN | Depot-level storage, warehousing, distribution, and traffic management activities are conducted in NAVSUP Supply Centers, and all resources are programmed in PE 71111 and PE 57203. |
| | None | None | None | O&MN<br>MPN<br>RPN | Depot-level stock control, cataloging, item management, and support activities are accomplished in the Aviation Support Office (ASO) and Ships Parts Control Center (SPCC), and all resources are programmed in PE 71112 and PE 57204. |
| 2 to e a e- | SHORSTAMPS manpower classification system extended to operating forces could provide an automated system to identify Navy manpower by function. | None | OP-04 and NAVSUP staffs must develop allocation methodology to separate contract administration, central procurement, and other procurement operations. The OP-17 budget exhibit form may provide a basis for proration factors. | O&MN<br>MPN<br>RPN | Resources are programmed in PEs 71113 and 57205; aggregate data are thus available for central activities but not disaggregated into the two categories. |

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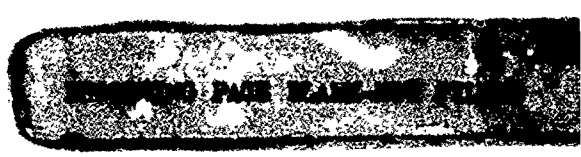

| LOGISTIC FUNCTION[a] | APPLICABLE DATA SYSTEMS | REQUIRED MODIFICATIONS TO EXISTING SYSTEMS | IMPLEMENTATIONS REQUIRED OF PLANNED SYSTEMS | ALLOCATIONS REQUIRED |
|---|---|---|---|---|
| 4. Supply Operations | NCIS/FYDP<br>NARM/FLAIL | New BCCs must be created to enter data that are currently submerged in miscellaneous base services BCCs. | SHORSTAMPS manpower classification system extended to operating forces could provide an automated system to identify Navy manpower by function. | None |
| C. TRANSPORTATION<br>1. Second Destination Transportation | NCIS/FYDP<br>NARM/FLAIL<br>OP-5 Budget Exhibit<br>OP-16 Budget Exhibit | New BCCs must be added to display MAC, MSC, and other categories separately. | None | None |
| 2. Airlift Operations (MAC) | None | None | None | None |
| 3. Sealift Operations (MSC) | NCIS/FYDP<br>NARM/FLAIL | None | None | None |
| 4. Traffic Management and Terminals (MTMC) | None | None | None | None |
| 5. Transportation Services | NCIS/FYDP<br>NARM/FLAIL | New BCCs must be created to enter data that are currently submerged in miscellaneous base services BCCs. | SHORSTAMPS manpower classification system extended to operating forces could provide an automated system to identify Navy manpower by function. | None |
| D. LOGISTIC SUPPORT OF FORCE OPERATIONS AND TRAINING<br>1. Fuel | NCIS/FYDP<br>NARM/FLAIL<br>OP-20 and OP-40 Budget Exhibits | New BCCs must be established to accept fuel data in the required LRA categories. | None | None |
| 2. Personnel Support Material | NCIS/FYDP<br>NARM/FLAIL | None | None | The subsistence and clothing and medical supplies compo ent of the standard rates wi be used to extract these el ments from MPN. |
| 3. Other Consumable Supplies and Materials | NCIS/FYDP<br>NARM/FLAIL | New BCCs to identify separately consumable supplies and materials must be created. | None | None |

[a]See Exhibit 3 for complete list of all functions and subfunctions.

[b]All resources for the reserve forces appropriated in separate reserve appropriations will be included in the proper category along with the regular service-funded resources.

## Table 5. Continued

| | IMPLEMENTATIONS REQUIRED OF PLANNED SYSTEMS | ALLOCATIONS REQUIRED | NAVY STAFF ANALYSIS REQUIRED | APPROPRIATIONS COVERED[b] | REMARKS |
|---|---|---|---|---|---|
| | SHORSTAMPS manpower classification system extended to operating forces could provide an automated system to identify Navy manpower by function. | None | None | O&MN MPN | Dollar resources from O&MN are currently entered in miscellaneous station operations BCCs and are not given separate identity. |
| | None | None | OP-921 will need to extend out-year data to include the details required by the LRA structure. | O&MN | The required levels of detail are currently shown for budget years in the identified budget exhibits, and OP-921 extends the budget year PE totals for PE 78010 through the out-years. Terminal services are already shown in BCC TB. |
| | None | None | None | None | Not a Navy program. |
| | None | None | None | O&MN | All data exist in specific PEs: 42121, 42122, 42125, 42126, 42124, 42123, 42113, 42114, 42117, 42118, 43111, 43113, 42167. |
| | None | None | None | None | Not a Navy program. |
| | SHORSTAMPS manpower classification system extended to operating forces could provide an automated system to identify Navy manpower by function. | None | None | O&MN MPN | Dollar resources from O&MN are currently entered in miscellaneous station operations BCCs and are not given separate identity. |
| | None | None | None | O&MN | Miscellaneous BCCs currently contain fuel data but the data are not separately visible in the required categories. |
| | None | The subsistence and clothing and medical supplies component of the standard rates will be used to extract these elements from MPN. | OP-01 and BUPERS 31 will have to provide subsistence and clothing and medical supplies parts of the standard pay rates. | MPN | Subsistence and clothing and medical supplies are contained within the standard rates used for costing MPN. These data will be non-add here to avoid double counting. |
| | None | None | None | O&MN | Several BCCs, including BA, "Aircraft Operations," and DC, "Ship Supplies and Equipage," carry these nonmaintenance consumables. |

| LOGISTIC FUNCTION[a] | APPLICABLE DATA SYSTEMS | REQUIRED MODIFICATIONS TO EXISTING SYSTEMS | IMPLEMENTATIONS REQUIRED OF PLANNED SYSTEMS | ALLOCATIONS REQUIRED |
|---|---|---|---|---|
| 4. Munitions: Peacetime Operations and Training (Procurement) | POM Volume IV and budget backup data | None | None | None |
| II. LOGISTIC SUPPORT OF POST D-DAY COMBAT SUSTAINABILITY<br>A. WAR RESERVE STOCKAGE<br>1. Munitions (Procurement)<br>2. Aviation War Consumables (Procurement)<br>3. Spares and Repair Parts (Procurement)<br>4. Stock Fund Material | NCIS/FYDP<br>NARM/FLAIL<br>POM and budget backup materials | None | None | None |
| B. INDUSTRIAL PREPAREDNESS<br>1. Ammunition Production Base Investment (Procurement)<br>2. Other Industrial Facilities Investment (Procurement)<br>3. Manufacturing Technology (Procurement)<br>4. Industrial Preparedness Operations | NCIS/FYDP<br>NARM/FLAIL | New BCCs must be created to align with the LRA categories, but the data to input into the BCCs currently exist. | None | None |

[a]See Exhibit 3 for complete list of all functions and subfunctions.

[b]All resources for the reserve forces appropriated in separate reserve appropriations will be included in the proper category along with the regular service-funded resources.

## Table 5. Continued

| | IMPLEMENTATIONS REQUIRED OF PLANNED SYSTEMS | ALLOCATIONS REQUIRED | NAVY STAFF ANALYSIS REQUIRED | APPROPRIATIONS COVERED[b] | REMARKS |
|---|---|---|---|---|---|
| | None | None | OP-41C must aggregate line items of munitions into the three desired LRA categories for each updating of the FYDP. | WPN | None |
| | None | None | OP-41C will have to subdivide some aggregate totals, such as Air Ammunition Procurement, into amounts for operations and training separate from war reserve stockage. The data for this and other required subdivisions exist in the backup material that supports the POM and FYDP submissions. | WPN<br>APN<br>OPN<br>SCN | None |
| | None | None | OP-41C can provide data in the required categories. | O&MN | A single total for PE 78011 is available, but not in the detail required. |

| LOGISTIC FUNCTION[a] | APPLICABLE DATA SYSTEMS | REQUIRED MODIFICATIONS TO EXISTING SYSTEMS | IMPLEMENTATIONS REQUIRED OF PLANNED SYSTEMS | ALLOCATIONS REQUIRED |
|---|---|---|---|---|
| III. LOGISTICS MANAGEMENT AND SUPPORT ACTIVITIES<br>A. LOGISTICS MANAGEMENT HEADQUARTERS | NCIS/FYDP<br>NARM/FLAIL | None | None | None |
| B. LOGISTIC SUPPORT EQUIPMENT (PROCUREMENT)<br>1. Aircraft Logistic Support<br>2. Ship Logistic Support<br>3. Missile Logistic Support<br>4. Combat Vehicles Logistic Support<br>5. Weapons and Ordnance Logistic Support<br>6. Electronics and Telecommunications Logistic Support<br>7. Civil Engineering Logistic Support<br>8. Maintenance Support Equipment<br>9. Supply Support Equipment<br>10. Logistic ADP<br>11. Productivity Enhancement Investment | Procurement Annex Resource Sponsor Data | None | None | None |
| C. OTHER CENTRAL LOGISTIC SUPPORT<br>1. Property Disposal | None | None | None | None |
| 2. Inactive Equipment Storage and Maintenance | NCIS/FYDP<br>NARM/FLAIL | None | None | None |
| 3. Other Logistics Activities | NCIS/FYDP<br>NARM/FLAIL | None | None | None |

[a]See Exhibit 3 for complete list of all functions and subfunctions.

[b]All resources for the reserve forces appropriated in separate reserve appropriations will be included in the proper category along with the regular service-funded resources.

## Table 5. Continued

| IMPLEMENTATIONS REQUIRED OF PLANNED SYSTEMS | ALLOCATIONS REQUIRED | NAVY STAFF ANALYSIS REQUIRED | APPROPRIATIONS COVERED[b] | REMARKS |
|---|---|---|---|---|
| None | None | None | O&MN<br>MPN | All manpower and dollar resources for this function are programmed in PE 72898, and as a result the data are readily available. Some O&MN dollars will have to be subtracted from the PE total because these are for base operations functions (that are covered elsewhere in the LRA) and for base communications. |
| None | None | OP-41C must assign the line items in the Procurement Annex to the various categories. | APN<br>OPN | IDA recommends the following distribution of OPN resources to the LRA categories: aircraft, APN-07, OPN-03; ships, OPN-01, OPN-04; maintenance support, OPN-01, OPN-02, OPN-03; supply support, OPN-06; civil engineering support (except collateral equipment), OPN-05; logistic ADP, OPN-07; productivity enhancement, OPN-07. |
| None | None | None | None | Since this is a DLA responsibility, the Navy does not program resources for this category separately. |
| None | None | None | O&MN<br>MPN | All resources currently available in PEs 78015 and 78016. |
| None | None | None | O&MN<br>MPN | This category contains all FYDP Program 7 logistic resources not shown elsewhere in the LRA. LRA information elements are defined at the PE level and are available in the data systems. |



| LOGISTIC FUNCTION[a] | APPLICABLE DATA SYSTEMS | REQUIRED MODIFICATIONS TO EXISTING SYSTEMS | IMPLEMENTATIONS REQUIRED OF PLANNED SYSTEMS | ALLOCATIONS REQUIRED |
|---|---|---|---|---|
| IV. INSTALLATION AND FACILITIES SUPPORT<br>A. FACILITIES CONSTRUCTION (LESS HOUSING)<br>1. Logistic Facilities | NCIS/FYDP by RCC | None | None | None |
| 2. Other Facilities<br>a. Administrative<br>b. Community<br>c. Medical<br>d. R&D<br>e. Operations and Training<br>f. Telecommunications<br>g. NATO Infrastructure | NCIS/FYDP by RCC | None | None | None |
| h. Guard and Reserve | NCIS/FYDP by MCNR appropriation | None | None | None |
| i. Utilities, Real Estate | See a-g | See a-g | See a-g | See a-g |
| j. Air Pollution Control<br>k. Water Pollution Control<br>l. Nuclear Security<br>m. Energy Conservation | NAVFAC Investment Category Report | None | None | None |
| n. Minor Construction<br>o. Planning and Design<br>p. Contingency | See a-g | See a-g | See a-g | See a-g |
| 3. Personal Property Collateral Equipment | NCIS/FYDP by unique RCCs | None | None | None |

[a] See Exhibit 3 for complete list of all functions and subfunctions.

[b] All resources for the reserve forces appropriated in separate reserve appropriations will be included in the proper category along with the regular service-funded resources.

## Table 5. Continued

| TO | IMPLEMENTATIONS REQUIRED OF PLANNED SYSTEMS | ALLOCATIONS REQUIRED | NAVY STAFF ANALYSIS REQUIRED | APPROPRIATIONS COVERED[b] | REMARKS |
|---|---|---|---|---|---|
| | None | None | None | MCN | POMCUS is not a Navy program so there are no entries in the Navy. |
| | None | None | Staff analysis by OP-44 and NAVFAC is required to identify RCCs that should be in the "contingency" category. | MCN | None |
| | None | None | None | MCNR | None |
| | See a-g | See a-g | See a-g | See a-g | See a-g |
| | None | None | OP-44 and NAVFAC must extract relevant readily available data from Report No. TB-690-10F. | MCN | Data in these categories are already included in the other categories a-j above. The entries here are non-add. |
| | See a-g | See a-g | See a-g | See a-g | See a-g |
| | None | None | None | OPN O&MN and O&MNR | A separate line in Budget Activity 5 of OPN in the Procurement Annex displays all collateral equipment bought with OPN funds. Budget Classification Code RW contains all collateral equipment bought with O&MN and O&MNR funds and entered into the NCIS/FYDP. |

| LOGISTIC FUNCTION[a] | APPLICABLE DATA SYSTEMS | REQUIRED MODIFICATIONS TO EXISTING SYSTEMS | IMPLEMENTATIONS REQUIRED OF PLANNED SYSTEMS | ALLOCATIONS REQUIRED |
|---|---|---|---|---|
| B. HOUSING<br>1. Family Housing | NCIS/FYDP | None | None | None |
| 2. Troop Housing | NCIS/FYDP by unique RCCs | None | None | None |
| C. REAL PROPERTY MAINTENANCE<br>1. Maintenance and Repair<br>2. Minor Construction | NCIS/FYDP by unique BCCs | Requires use of BCCs FA and FB rather than use of BCC F4. | None | None |
| 3. Utilities Operation<br>4. Other Engineering Support | NCIS/FYDP by miscellaneous BCCs | Unique BCCs must be reestablished for these two lines. | | |
| D. BASE OPERATIONS: OTHER SERVICES AND SUPPORT<br>1. Administrative Services<br>2. Installation Level Supply Services<br>3. Installation Level Maintenance Services<br>4. Installation Level Transportation Services<br>5. Installation Level Procurement Services<br>6. All Other Base Services | NCIS/FYDP<br>NARM/FLAIL | New BCCs must be created to show desired detail. | None | None |

[a]See Exhibit 3 for complete list of all functions and subfunctions.

[b]All resources for the reserve forces appropriated in separate reserve appropriations will be included in the proper category along with the regular service-funded resources.

## Table 5. Continued

| | IMPLEMENTATIONS REQUIRED OF PLANNED SYSTEMS | ALLOCATIONS REQUIRED | NAVY STAFF ANALYSIS REQUIRED | APPROPRIATIONS COVERED[6] | REMARKS |
|---|---|---|---|---|---|
| | None | None | None | Family Housing, Defense | The separate PEs for each category are:<br>88741 - New Construction<br>88742 - Improvements<br>88743 - Debt Payment<br>88744 - Leasing<br>88745 - Operations<br>88746 - Maintenance |
| | None | None | None | MCN<br>MCNR | None |
| ed | None | None | None | O&MN<br>O&MNR<br><br>O&MN<br>O&MNR | Unique BCCs, FA and FB exist for these two lines. A separate summary BCC, F4, permits claimants to combine the two lines into one.<br><br>Currently these lines are input into the NCIS/FYDP in miscellaneous BCCs, losing their identity. |
| show | None | None | None | O&MN<br>MPN | Base operations O&MN resources are currently entered in miscellaneous BCCs. |

# Appendix A

# NAVY LRA FUNCTIONAL DETAIL

CONTENTS

## EXHIBITS



## TABLES

# NAVY LRA FUNCTIONAL DETAIL

This appendix contains detailed discussions of the location of the data, the reporting channels, and the issues surrounding necessary calculations or estimations for each logistic function in the LRA. These discussions are presented according to the sequence of logistic functions in the LRA structure. Every line in the structure, however, does not necessarily receive individual treatment. In many cases, a discussion of data sources, data management systems, reporting channels, and other pertinent information applies to several lines listed under a single heading. For example, we present a single discussion of facilities construction, even though there are 27 lines of functional detail under this heading in the LRA structure.

The specific functional write-ups contained in this appendix are listed on p. A-iii.

## A. DEPOT-LEVEL MAINTENANCE AND MODIFICATION/ALTERATION INSTALLATION

The LRA requires display of dollar resources programmed for depot-level work by materiel category, by work performance-oriented subcategories within the aircraft, ship, and missile materiel categories, and by weapon system supported for designated systems. Dollars programmed to purchase services (i.e., customer funds) from commercial, organic Navy industrial fund, and interservice facilities will be displayed separately. The proposed coverage is illustrated in Exhibit A-1. All programmed manpower data will be displayed in a separate section of the LRA. Coverage of manpower resources is illustrated in the next section.

In the Navy, customer funds to purchase depot maintenance services are managed primarily by program-related line items (e.g., ASW Support, Airframe Reworks, Ship Overhauls). All programming data for these line items are developed by the Navy claimants and entered, at varying levels of aggregation, into the NCIS/FYDP or the NARM/FLAIL. In the case of the NCIS/FYDP, a combination of UICs, RCCs, and BCCs is used to identify these data. Unfortunately, these program line items and the coding procedures currently used to identify data concerning program requirements are generally aggregated at levels higher than required to support the LRA. For this reason, changes in current procedures and development of new codes must be considered.

Exhibit A-1. ILLUSTRATION OF COVERAGE OF DOLLARS PROGRAMMED FOR DEPOT MAINTENANCE

| Depot Level Maintenance ($) Aircraft | Navy Organic Facilities | Commercial Facilities | Interservice Facilities | Total |
|---|---|---|---|---|
| Airframe Reworks | Customer dollars by appropriation | | | |
| Engine Overhaul | Customer dollars by appropriation | | | |
| Component Repair | Customer dollars by appropriation | | | |
| Modification Installations | Customer dollars by appropriation | | | |
| Other Maintenance and Support | Dollars by appropriation for direct funded resources | | | |
| Total Aircraft Maintenance | | | | |

Primarily because the Navy has implemented the provisions of DODI 4151.15[1] and depot maintenance resources are centrally programmed and managed by OPNAV and NAVMAT, the data required to support the LRA can be prepared in the categories prescribed by the LRA. In many cases, Navy claimants will merely have to assign the program line items currently used to manage these resources to the appropriate LRA categories. In other cases line items include resources that must be associated with more than one LRA category, in which case additional line items will be required. Developing these additional line items should not be difficult, however, since in many cases the Navy claimants who develop the resource requirements at the aggregated program line item level derive these data from information at lower levels of detail. Finally, to facilitate entering these data into the NCIS/FYDP or the NARM/FLAIL, revised coding procedures will have to be developed and used to permit retrieval of these data by LRA category. Additional research will be required to develop these new procedures but it appears that by using a combination of UICs, BCCs, RCCs, and weapon system codes, it should be possible to accommodate these additional data without modifying the NCIS/FYDP input data fields.

Depot maintenance services are performed by commercial contractors and by DoD industrial fund organic facilities.[2] Navy customer funds to purchase these industrial services are included in PE's in FYDP Programs 1, 2, 5, and 7. The SYSCOMS program resources in Program 7 to fund depot services for

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[1]The Navy has implemented a comprehensive depot maintenance planning system in compliance with DODI 4151.15, *Depot Maintenance Programming Policies*, November 1976. This directive, which is applicable to all Services and to all materiel categories, requires (among other things) that resources programmed for depot maintenance must be related to functions performed and weapon system supported.

[2]The ship repair facilities, which are operated and funded by PACFLT under a modified-industrial fund system, are a major exception. These facilities are included in the depot maintenance category because they provide the same type of support as is provided by naval shipyards.

centrally managed programs such as depot level component repair and all aircraft depot maintenance. Funds in the other PE's are programmed and managed by the Fleets.[1]

All producer-oriented industrial fund facilities are managed by the SYSCOMS and can be readily identified in the NCIS/FYDP at both the UIC and PE levels (see Table A-1). Moreover, these facilities in the aggregate can be easily associated with the materiel categories in the LRA. As a result, the manpower data required by the LRA are readily available in the Navy data systems that support the FYDP. Exhibit A-2 illustrates the proposed coverage in the LRA.

## 1. Aircraft Maintenance

Aircraft depot-level support is provided by commercial contractors and by the industrial fund NARFs and NAC. Both producer and customer resources are centrally managed by NAVAIR. The program is financed primarily by O&MN although some APN funds are used to finance the installation of mods by commercial contracts. Customer funds are included in PE 72207, Depot Maintenance (non-IF).

Planning and programming resources for the aircraft maintenance program are centrally managed by OP-51, the Aircraft Program Division of DCNO (Air Warfare), in close coordination with NAVAIR and the Fleets. The categories used by the Navy to program resources and to manage this program are identical to the five categories in the LRA structure. For example, Annex E of the 1979 POM (prepared by OP-514 primarily on the basis of NAVAIR input) identifies resources in these categories. Moreover, the Navy indicates that data in these categories are available throughout the year even though they are not currently entered into the NCIS/FYDP or the NARM/FLAIL at this level.

[1]See Morgan, et al., *A Phase I Report*, pp. 20 and 46.

Table A-1. PRODUCER-ORIENTED INDUSTRIAL FUND FACILITIES

| Type of Depot Maintenance Facility | Program Element Displaying Manpower Data |
|---|---|
| Naval Air Rework Facilities (NARFs) | 72007 |
| Naval Avionics Facility (NAFI) | 72026 |
| Naval Shipyards | 72028 |
| Missile Facilities | 72009 |
| Ordnance Facilities | 72031 |
| Ship Repair Facilities | 24617 |

Exhibit A-2. PROPOSED COVERAGE OF ORGANIC NAVY DEPOT-LEVEL MANPOWER RESOURCES

| Type of Depot Level Facility | Industrial Fund | Non-Industrial Fund | | Total | |
|---|---|---|---|---|---|
| | Civ. | Mil. | Civ. | Mil. | Civ. |
| Naval Shipyards | xxx | xxx | | xxx | xxx |
| Ship Repair Facilities | | xxx | xxx | xxx | xxx |
| Naval Air Rework Facilities (NARF) | xxx | xxx | | xxx | xxx |
| Naval Avionics Facility (NAFI) | xxx | xxx | | xxx | xxx |
| [All other facilities by type] | | | | | |

For example, NAVAIR generally uses BCC N1, "Aircraft Rework and Maintenance (Active and Reserve Forces)," to enter total O&MN funds as a single entry.

As shown in Table A-2, BCCs already exist within BCC N1 appropriate to most of the data required to support the LRA. BCCs would have to be developed to input O&MN funds separately for installation of mods at organic facilities. Also, additional BCCs could be defined to display funds programmed to purchase depot services from interservice facilities. Finally, procedures would have to be developed to facilitate entering data for line items funded in appropriations other than O&M.

The Navy routinely identifies aircraft depot maintenance program resources, except for component repair, engines, and other maintenance and support, with weapon systems. It is feasible to develop procedures to allocate these latter costs as well to weapon systems and the Navy is working to develop such procedures.[1] For example, in support of the VAMOSC Program, the Navy has used historical data to produce weapon system cost reports that included allocation of component repair costs to weapon systems.[2] Data on costs to repair components used by only a single weapon system should be available from item managers. The total repair cost of items common to more than one weapon system can be obtained from the same source. The common item cost data can be prorated to individual weapon systems on the basis of historical consumption data (i.e., related to the weapon system generating the reparable or to the weapon system to which serviceable components are issued). Estimates of future usage can be derived by using these

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[1]Nevertheless, in implementing the LRA, OSD may consider waiving the requirement to show "Other Maintenance and Support" by weapon system.

[2]See, for example, *NALCOMIS--O&S (VAMOSC--AIR), Total Support System Report--FY 75 Data*, December 31, 1976.

Table A-2. AIRCRAFT DEPOT MAINTENANCE CATEGORIES AND CORRESPONDING EXISTING BUDGET CLASSIFICATION CODES

| Aircraft Rework and Maintenance Categories | Sub-BCCs in BCC N1 (In-House/Commercial |
|---|---|
| Airframe Rework | NA/NB |
| Engine Overhaul | NC/ND |
| Component Repair | NE/NF |
| Other Aircraft Maintenance | NG/NH |

historical data and independent variables considered to be determinants of the demand for replacement components.

The LRA also requires that Navy resources programmed (and centrally managed) for support of Marine aircraft be separately identified by function and by weapon system. Members of the Navy staff indicate that they can comply with this requirement by using the same procedures as for all aircraft.

## 2. Ship Maintenance

Ship depot maintenance services are performed primarily by commercial contractors, industrial fund naval shipyards, and ship repair facilities operated by PACFLT. Planning and programming of resources to provide these services are centrally managed and controlled by the Ships Maintenance and Modernization Division (OP-043), DCNO (Logistics), in close coordination with NAVMAT and the Fleets. Manpower, cost, and revenue data for the NIF-operated shipyards are shown in PEs 72028, "Ship Maintenance Activities (IF)," and 72029, "Revenues (Ship Maintenance Activities) (IF)." Funds to purchase ship maintenance from naval and commercial shipyards are controlled by the Fleets and are included in various PE's (the PEs to which the ships are assigned) in FYDP Programs 1, 2, and 5. These funds are used by the Fleets to finance ship overhaul and repair and to

perform ship alterations. In addition, there are depot maintenance funds in various Program 7 PEs[1] which are used primarily by NAVSEA to finance centrally managed programs such as component repair.

The categories required by the LRA for display of resources programmed for ship depot-level maintenance are the same as used by the Navy. For example, POM Annex D, which is prepared by OP-043 based primarily on NAVSEA inputs, displays resources in these categories for all but ship conversions. (Resources for conversions are separately identified in the Procurement Annex.) Moreover, OP-043 indicates that even though these resources are managed primarily by program line items that are distributed among many PEs, data could be made available in these same categories throughout the year.

The primary BCCs used to enter data about O&M funds into the NARM/FLAIL and the NCIS/FYDP are F1, "Regular Ship Overhaul"; F2, "Restricted/Technical Availability"; and PU, "Fleet Modernization Program." The corresponding LRA categories are Scheduled Overhaul, Other Overhaul and Repair, and O&MN Financed Alteration Installations. A series of support BCCs are used to enter data on component repair and other support activities (for example, the summary BCC, P1, "Maintenance Support," includes PH, "ASW Maintenance Support" and PJ, "Component Repair"). As described above for aircraft maintenance, the Navy will have to correlate all program line items to specific BCCs which, in turn, must be equated to the LRA categories to facilitate the retrieval of the data elements required to support the LRA. Also, for those program line items that include resources that must be associated with more than one LRA category, it will be necessary to enter data at a lower level of detail. In most

[1]72228, "Ship Maintenance Activities (Non-IF)," 78012, "Logistic Support Activities," and 78017, "Maintenance Support Activities."

cases, the offices that manage the various line items are already able to provide the required data elements since resource requirements for the total line item have been generated from review of program support requirements at lower levels of detail.

Primarily because the Navy has implemented the requirements of DODI 4151.15 for snips, the Navy is already able to identify resources programmed for ship overhaul and repair by weapon system--generally according to a specific hull but always by type and class. In addition, the Navy programming systems identify whether this work is to be performed at commercial or organic facilities. Resources in the component repair and support categories will have to be allocated to weapon system[1] but, as discussed in the preceding section, the Navy has demonstrated the capability to do this.[2]

Resources programmed for ship conversions also have to be included in the LRA. Equipment and installation costs are to be separately identified by weapon system. The ship conversion program is centrally managed by OPNAV and NAVSEA and total SCN costs by ship class are already available in the Procurement Annex to the FYDP and in the data systems that support the Navy PPBS. The Navy indicates that these costs can be separated into the equipment and installation entries required to support the LRA.

### 3. Materiel Categories Other Than Ships and Aircraft

Resources for depot-level maintenance for items other than ships and aircraft are also managed by program line item.

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[1]In implementing the LRA, OSD may consider waiving the requirement to show "Other Maintenance and Support" by weapon system.

[2]See, for example, *VAMOSC Ships' Final Report*, DoN, September 21, 1976. This report was a prototype based on FY 75 data. The first production report is due in October 1978 using FY 77 data.

Unfortunately, many of these line items represent aggregate resource requirements that are not routinely identified according to materiel category. As a result, before the Navy will be able to support the LRA, it will be necessary to review current line items and redefine old ones or establish new ones as required to identify resources according to the LRA categories. Once this is done, procedures will have to be developed to require these data to be entered by BCCs into the NCIS/FYDP and the NARM/FLAIL. Fortunately, it is feasible to use existing BCCs and RCCs, in conjunction with UICs, to accomplish this without major modification to these systems.

In terms of the LRA categories, except for the missile materiel category, it is recommended that identification of resources for other than ships and aircraft be limited to a single entry for each materiel category. For the missile materiel category, OP-04 indicates that the program line items by which these resources are programmed can be aligned with the LRA missile subcategories. Although the Navy routinely identifies resources for missile depot-maintenance by weapon system in the strategic, air-launched, and surface-launched categories, we do not recommend that this level of detail be displayed in the LRA.

## 4. LRA Coverage

The LRA requires that depot maintenance funds be displayed by materiel category according to type of facility expected to provide the services (Navy organic, commercial, interservice). Exhibit A-3 illustrates this coverage.[1] Within each category, programmed funds will be listed by appropriation. Also, funds

[1]Only total installation costs by materiel category will be shown in this section of the LRA. The section displaying modification and alteration procurement costs will display installation costs, on a non-add basis, by type of modification or alteration.

## Exhibit A-3. ILLUSTRATION OF LRA COVERAGE OF DEPOT-LEVEL MAINTENANCE RESOURCES

| Logistic Function | FY 80 (81, 82, 83, 84) | | | |
|---|---|---|---|---|
| | Navy Organic Facilities | Commercial Facilities | Interservice Facilities | Total |
| Aircraft | | | | |
| Airframe Reworks<br>Engine Overhaul<br>Component Repair<br>Modification Installation[a]<br>Other Maintenance and Support | Customer dollars by appropriation. | | | |
| Total | | | | |
| Ships | | | | |
| Scheduled Overhaul<br>Other Overhaul and Repair<br>Shipboard Equipment/Component Repair<br>Alteration Installation (FMP)[a]<br>Conversions Installation<br>Other Maintenance and Support | Customer dollars by appropriation. | | | |
| All Other Categories | | | | |

[a]Only total installation costs by materiel category will be shown in this section of the LRA. The section displaying modification and alteration procurement costs will display installation costs, on a non-add basis, by type of modification or alteration.

will be identified by weapon system supported for particular aircraft, ship, and missile systems designated by OSD. Note that no data about programmed end-strengths are shown. This is because the LRA will provide these data in consolidated manpower displays (discussed in the next section).

## B. MANPOWER IN NAVY ORGANIC DEPOT-LEVEL MAINTENANCE FACILITIES

The LRA requires separate identification of the projected authorized military and civilian end-strengths programmed to support organic depot-level maintenance facilities. Costs for military personnel in IF activities will also be identified.[1]

The major types of Navy organic depot-level maintenance facilities are readily identifiable at the PE level, as shown above in Table A-1. These facilities are identified by individual UIC so that programmed manpower levels are readily available in both the NCIS/FYDP and the NARM/FLAIL. As a result the Navy can display total authorized military and civilian end-strengths and costs of military personnel by Navy depot maintenance facility.[2]

As pointed out above, the facilities listed in Table A-1 provide many services other than those traditionally thought of as depot maintenance. Thus, a display of the total manpower programmed for these facilities does not reveal the actual workloads accomplished. A considerable amount of additional research would be required to develop procedures to provide detailed programming data by workload accomplished. However, data included in the NIF budgets provide a partial basis for allocating total authorized manpower into more meaningful subcategories.

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[1]Although this section discusses manpower in depot-level maintenance facilities, the ideas presented apply also to other IF activities discussed below.

[2]These costs are included here since they are not included in the charges made to NIF customers (i.e., they are not included in the depot-level customer funds discussed earlier in this chapter).

As discussed earlier, the LRA requires separate identification of depot-level resources programmed for maintenance in terms of engineering services and other maintenance activities. It is proposed that the A-2 Budget Exhibit, the Statement of Revenues and Costs, included in the NIF Budget Submission be used to allocate the manpower totals in the program elements listed in Table A-1 to these three categories. As required by NAVCOMPINST 7331.1D,[1] the Navy must display projected revenues by depot-level work performance categories that represent a functionally oriented breakdown of all depot activities.[2] Even though over 20 categories are prescribed, these can be grouped into the 3 categories required to support the LRA. Then factors can be derived that can be used to allocate totals for other years among the three categories desired.

Exhibit A-4 illustrates an initial attempt to group the depot-level work performance categories into LRA proposed categories. A more refined breakout is probably feasible, although additional research would have to be accomplished to determine the amount of effort that would be required. At a subsequent time it would probably be useful to separate the "Overhaul, Repair, and Renovation" category, for example, into its three major components. Pending full implementation of the requirements of DODI 4151.15, this approach would be a rapid means of providing improved visibility into the functions for which manpower resources are programmed at the depot-level facilities. This data base would permit expanding each of the lines in the manpower section of the basic LRA into three lines, showing data for maintenance, engineering services, and all other.

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[1] *Requirement for Navy and Marine Corps Industrial Fund Quarterly Reports*, March 31, 1975.

[2] DODI 7220.29 contains a complete list and description of these categories.

## Exhibit A-4. DEPOT-LEVEL WORK PERFORMANCE CATEGORIES GROUPED INTO LRA CATEGORIES

| LRA Category | Depot-Level Work Performance Category from A-2 Budget Exhibit |
|---|---|
| Depot Maintenance | Overhaul, Repair, and Renovation<br>Alteration and Modification<br>Construction and Conversion |
| Sustaining Engineering | Engineering Services<br>Quality Evaluation<br>Logistic Support |
| Other Depot Level Activities | All Other Work Performance Categories |

## C. SUSTAINING ENGINEERING AND TECHNICAL ASSISTANCE SUPPORT

Sustaining Engineering Support is engineering effort designed to correct a proven performance deficiency, increase reliability and maintainability of equipment, achieve equipment and component standardization, simplify maintenance operations, make existing equipment compatible with newer equipment entering the inventory, and many other similar tasks. Technical Assistance Support involves advising, assisting, and training operational force personnel on the installation, operation, and maintenance of equipment. The LRA requires that manpower and dollar resources programmed for these types of logistic support be identified by materiel category and for designated weapon systems.

These services are provided by organic IF and non-IF activities and by commercial contractors. The manpower resources to provide these services for organic depot-level industrial fund activities are included in the manpower totals shown in PE 78014, "The Naval Ship Engineering Center," and in the DMNIF PEs discussed above. Unfortunately, these activities provide services in addition to those included in this LRA category so the manpower data elements required to support the LRA are not directly available in the NCIS/FYDP and the NARM/FLAIL. Therefore, the percent of total manpower devoted to this function at each type of activity will have to be estimated. It is suggested that the NIF A-2 Budget Exhibit be used for this purpose.

The funds used to purchase these services from organic industrial fund activities and commercial contractors and to

finance the operation of non-IF organic activities[1] are included in PE 78017, "Maintenance Support Activities," PE 78012, "Logistic Support Activities," and in the fleet resources displayed in various PEs in FYDP Programs 1 and 2. These funds are included in various O&MN line items submitted by Navy claimants and are not usually identified separately even though a series of BCCs are available to identify these resources in the NARM/FLAIL and the NCIS/FYDP (for example, BCC RF, "ASW Technical Support," and BCC RR, "Electronics Engineering and Technical Support"). The Navy is able to identify separately the funds programmed to operate non-IF activities that provide these services. Funds used to purchase direct engineering support can also be separately identified. As a result, the Navy can develop the data elements required to support the LRA for services in these two categories. Additional research is required, however, to identify engineering services purchased from IF or commercial activities that may be included in large work packages such as for a ship overhaul. For this reason, it is proposed that in the initial LRA only funds that can be readily identified for the purchase of engineering services be included in this category.

As discussed in connection with depot maintenance, the NIF A-2 Budget Exhibit may prove useful in allocating manpower in NIF activities in this category. Three of the industrial fund work performance categories (quality evaluation, engineering services, and the catchall category, logistic support) are used to classify engineering and technical support services and could be used to derive factors that could be applied to total manpower.

[1]These activities include centrally-managed NAVMAT funded services such as the NAVSEA Centers, NAVELEX Field Offices and NAVAIR Naval Aviation Engineering Service Units as well as fleet-funded activities such as the Mobile Technical Units.

In most cases, identification of resources by materiel category is facilitated by the name of the activity providing the service (e.g., the Naval Aviation Engineering Service Unit). Allocation methods will have to be developed to identify these resources according to weapon systems. Since most of these activities (and especially depot-level activities) operate under some form of job order system, this could be a source of data on historical workloads by weapon system. In the absence of information about projected workloads by materiel category and weapon system to be supported, factors could be derived from these historical data to prorate total support.

## D. ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE

Organizational maintenance functions are those performed in the using organization. On ships, for example, this would be the maintenance actions taken during equipment operation, condition monitoring, and authorized repairs, which may include activities as basic as equipment lubrication and as complex as rework in place.

Intermediate maintenance functions are performed by units specifically established to provide logistic support to operational units. For ships, such units are the afloat tenders and repair ships and the Shore Intermediate Maintenance Activities (SIMA). Intermediate maintenance for aircraft is performed both on ships (Aircraft Intermediate Maintenance Departments on carriers) and at shore intermediate facilities. Intermediate maintenance for other categories of materiel is performed at designated facilities.

The LRA requires separate identification of all Navy resources programmed for organizational and intermediate maintenance. Furthermore, it is necessary to identify these resources, separately, according to designated aircraft weapon systems and ship classes.

### 1. Resource Visibility in the NARM/FLAIL and NCIS/FYDP

Specific parts of Annexes D and E to the 1979 Navy POM have been developed that display organizational and intermediate maintenance resources for ships and aircraft. Similar annex displays have not been prepared for other materiel categories,

such as missiles and electronics and communications. Some of the data in these annexes were derived by staff analysis, since they were not available in the NARM/FLAIL and NCIS/FYDP in the detail or categories required for the POM annex displays. Because of this, all of the POM annex data cannot properly be termed the output of a data system. Rather, it is the output of several data systems and staff analyses. Organizational and intermediate maintenance data for materiel categories other than ships or aircraft could be similarly provided, resulting in POM annexes which in turn could be the sources of OSD-LRA data. However, some of the data would depend on staff analyses and would not be available through the NCIS/FYDP or NARM/FLAIL.

For aircraft, POM 79 Annex E provides projected numbers of personnel filling organizational and intermediate maintenance billets for the POM years FY 79 to FY 83. Organizational and intermediate material costs are lumped together for each POM year. These funds record the major claimants' purchases of bits, pieces, hydraulic fluid, and other materials needed to conduct organizational and intermediate maintenance on aircraft.

For ships, POM 79 Annex D shows intermediate maintenance resources for the POM years FY 79 to FY 83 in the manpower categories of contract, civilian, and military personnel, and O&MN Repair of Other Vessels (ROV) funds. ROV accounts for the parts and materials used by the IMAs in the repair of other vessels. Organizational maintenance manpower is covered by a discussion, with the explanation that this is a difficult area. There is a manpower figure given for total ships maintenance resources that excludes IMA and shipyard manpower, and therefore the total should represent organizational maintenance personnel. In identifying manpower costs the Annex does specify enlisted, officer, and civilian personnel on "all active duty ships except IMAs." In addition, the manpower costs for SIMAs and Fleet Maintenance Assistance Groups (FMAGs) are separately

identified. Ships Operating Target (OPTAR) maintenance funds for repair parts are also available by POM years.[1]

Maintenance personnel and materiel data for materiel categories are not entered separately into the NCIS/FYDP or the NARM/FLAIL data management systems by unique BCC or RCC codes. Appropriate BCCs could be developed to identify military and civilian manpower costs and materials costs separately. Materials costs are currently included under broad BCCs for aircraft and ships maintenance, and would have to be broken down into more detailed BCCs. For example, BCC E2, "Ship Intermediate Maintenance," currently includes the cost of materiel, parts, and related services used by tenders, repair ships, LANTFLT Fleet FMAGs, and SIMAs. These elements would have to be reported in separate BCCs.

Manpower data for intermediate and organizational maintenance can be developed through complete implementation of a SHOROC dictionary classification of all activities in the Navy including ships and aircraft. All activities in the shore establishment have already identified their manpower according to the categories in the current dictionary functional structure. The manpower data in POM Annexes D and E for organizational and intermediate maintenance are rough "by-hand" attempts to approximate data that a SHOROC-type system could automate for the entire

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[1]Operating Targets (OPTARs) are budget planning estimates which provide a convenient mechanism for measuring the performance of subordinate commands or departments of activities which hold operating budgets, or for measuring performance of command levels which hold allotments or suballotments. Operating budgets are divided into several elements of expense including maintenance repair parts. Thus, a ship separately has an OPTAR budget figure for the repair parts it uses. Ships that are repair facilities for other ships, such as ADs, ARs, and ASs, also have OPTARs for ROV funds, which provide the materials to repair other ships. OPTARs for these various expense elements are applicable to operating forces including active fleet ships and staffs, reserve training vessels assigned to the active fleet, fleet aircraft squadrons and staffs, construction battalions and staffs, amphibious construction battalions and staffs, oceanographic units, and other miscellaneous units.

Navy. Such a system could provide organizational and intermediate maintenance manpower data for all materiel categories in the OSD-LRA structure.

Maintenance materiel data for materiel categories other than ships and aircraft can be developed from claimants' budgets and files, and input into the NCIS/FYDP and NARM/FLAIL data management systems through new BCCs established for the purpose.

## 2. Weapon System Identification

Once developed at the materiel category level, data can be allocated to weapon systems by use of appropriate proportioning factors. If a UIC is unique to a specific weapon system, use of the SHOROC provides a feasible, straightforward way to identify organizational maintenance manpower to weapon systems without allocation. If a UIC covers more than one weapon system, allocations would be necessary. Intermediate maintenance manpower would require allocation to weapon systems through techniques involving workload or other suitable prorations such as those discussed above.

## E. INITIAL AND REPLENISHMENT SPARES AND REPAIR PARTS

The Procurement Annex, published coincidental with each updating of the FYDP, is a standard product of the DoD PPBS. Data in Procurement Annex categories are retained in both the NARM/FLAIL data management system and the NCIS/FYDP subsystem and are kept current through recurring inputs from resource sponsors and claimants.

Included in the Procurement Annex are comprehensive data on procurement of initial and replenishment spares and repair parts. Some of these data can be extracted from this annex and shown directly by materiel category in the LRA; other data must be selected from various sections of the annex and summed to show complete totals by materiel category. Finally, some prorations will be necessary, particularly with regard to replenishment spares information by weapon system if LRA requirements are to be completely satisfied.

All Procurement Annex data are shown by appropriation, and by BAC and procurement line item within the appropriation. The distribution of data by BAC facilitates the consolidation of spares data by materiel category in the LRA but, in some cases, levels of detail below the BAC summary level must be used to permit proper display of resources. This situation applies to the Other Procurement Appropriation, Navy (OPN).

## 1. Initial and Replenishment Spares and Repair Parts by Materiel Category

Exhibit A-5 identifies the sources in the Procurement Annex for data that must be displayed in the LRA by materiel category. The distribution of BACs in this exhibit is based on the predominant characteristics of the equipment in each BAC, without attempting to distribute data below the BAC summary level.

The Procurement Annex data relating to initial spares can be used most straightforwardly; however, there are problems even with this data when we attempt to distribute all OPN resources into materiel categories. For example, in OPN-01, "Ship Support Equipment," initial spares are reported using one summary BAC. Practically all of the equipment procured through OPN-01 is for direct ship and shipboard use; however, this BAC also includes substantial resources utilized for shipyard modernization equipment. Therefore, the question arises as to whether in the LRA the initial spares for this equipment should be shown against "Ships and Shipboard Equipment," or "Other Equipment."

We recommend that all of the OPN-01 initial spares be shown in the materiel category "Ships and Shipboard Equipment." It is appropriate to include spares for shipyard modernization equipment in the materiel category "Ships and Shipboard Equipment" because virtually the entire operation of a naval shipyard provides direct ship support. Thus, the magnitude of this support would not be as visible if these spares were shown under "Other Equipment."

The most serious problem relates to OPN-02, "Communications and Electronics Equipment." Initial spares in this BAC are shown as a single line without identification according to specific equipment line item; however, large amounts of OPN-02 equipment are directly related to ships or aircraft. For example, ship radars, ship sonars, ASW electronics, submarine

## Exhibit A-5. PROCUREMENT ANNEX DATA SOURCES FOR LRA SPARES AND REPAIR PARTS MATERIEL CATEGORIES[a]

| Initial Spares | Replenishment Spares |
|---|---|
| **Aircraft** | |
| Sum of: • APN-06: Aircraft Initial Spares<br>• OPN-03: Spares and Repair Parts-Initial | Sum of: • APN-06: Aircraft ReplenishmentSpares<br>• OPN-03: Spares and Repair Parts - Replenishment |
| **Ships and Shirboard Equipment** | |
| Sum of: • SCN-01, 02, 03, 04, 05: Outfitting lines<br>• OPN-01: Spares and Repair Parts - Initial | • OPN-01: Spares and Repair Parts - Replenishment |
| **Missiles** | |
| Sum of: • WPN-01, 02: Initial Spares lines | Sum of: • WPN-01, 02: Replenishment Spares lines |
| **Weapons and Ordnance** | |
| Sum of: • WPN-03, 04: Initial Spares lines<br>• OPN-04: Spares and Repair Parts - Initial | Sum of: • WPN-03, 04: Replenishment Spares lines<br>• OPN-04: Spares and Repair Parts - Replenishment |
| **Electronics and Telecommunications Equipment** | |
| • OPN-02: Spares and Repair Parts - Initial | • OPN-02: Spares and Repair Parts - Replenishment |
| **Other Equipment** | |
| Sum of: • OPN-05, 06, 07: Spares and Repair Parts - Initial lines | • OPN-05, 06, 07: Replenishment spares data not available |

[a]Category d, Combat Vehicles, is not applicable to the Navy.

surveillance equipment, and shipboard communication equipment are all shown separately by line item, as are aviation communication and electronic equipment such as instrument landing equipment and TACAN. To provide proper visibility of logistic support in the LRA it is necessary to distribute some OPN-02 spares resources to "Aircraft" and "Ships and Shipboard Equipment." A specific recommendation with regard to OPN-02 is made below.

In the Weapons Procurement Appropriation, WPN-01 covers ballistic missiles and WPN-02 covers other missiles. WPN-01 missiles are submarine-launched, and most of the resources in WPN-02 are for surface-ship- and aircraft-launched missiles. Thus, one method of preparing the LRA would be to display all spares resources in WPN-01 and WPN-02 under either materiel category "Aircraft" or materiel category "Ships and Shipboard Equipment." If this approach is adopted it would also be desirable to display the remainder of the WPN-financed spares resources covered by WPN-03, "Torpedoes and Related Equipment," and WPN-04, "Other Weapons," under either "Aircraft" or "Ships and Shipboard Equipment."

Although all of the Weapons Procurement Appropriation data could be distributed to either aircraft or ships, we believe it is more appropriate to show the WPN-01 and WPN-02 spares data in the "Missiles" category and WPN-03 and WPN-04 spares data under "Weapons and Ordnance." This procedure allows the OSD analyst to view the large missile spares procurement area directly. Furthermore, the data are readily available in the Procurement Annex if separate identification of missiles by aircraft or ships materiel category is desired.

As Exhibit A-5 shows, replenishment spares can be identified according to materiel category in the same manner as initial spares. The only differences are that SCN does not finance replenishment spares for ships and it is not possible

to identify those data in the Procurement Annex that are for replenishment spares for OPN-financed equipment that fall into the "Other Equipment" category.

We recommend the following with regard to display of initial and replenishment spares data from the Procurement Annex in the LRA by materiel category:

(1) The assignment of BACs by materiel category should be as shown in Exhibit A-5 except for OPN-02.

(2) Navy resource sponsors should allocate spares data in OPN-02, both initial and replenishment, according to major categories of equipment such as ship radars, ship sonars, aviation communications and electronics equipment, and others. These allocations would involve breaking down the initial spares and replenishment spares lines currently shown in the Procurement Annex for OPN-02 into materiel category related line items. (Budget form P-18a currently requires display of initial spares by line item for the 3 years covered in budget submissions.)

(3) Spares data for those line items of OPN-02 identifiable to aircraft or ships should be included in materiel categories "Aircraft" or "Ships and Shipboard Equipment," as appropriate. All residual OPN-02 spares data should be shown in the materiel category "Electronic and Telecommunications Equipment."

Exhibit A-6 illustrates this distribution of Procurement Annex spares data by materiel category.

Although the Navy procures aircraft for and provides central logistic support to Marine Corps aviation units, it will be necessary to identify separately the initial and replenishment spares for the Marine Corps aircraft. To do this it will be necessary to subtract these resources from the totals shown in Exhibit A-5 for aircraft. This can be accomplished by a straight proration of resources based on aircraft inventory levels authorized for the Navy and for the Marine Corps. If OSD desires more precise allocations, variables such as flying hours, or data limited only to resource consumption by the Marine Corps aircraft could be used.

## Exhibit A-6. RECOMMENDED USE OF PROCUREMENT ANNEX DATA SOURCES FOR SPARES AND REPAIR PARTS BY LRA MATERIEL CATEGORY[a]

| Initial Spares | Replenishment Spares |
|---|---|
| **Aircraft** | |
| Sum of:<br>• APN-06: Aircraft Initial Spares<br>• OPN-02: Spares and Repair Parts - Initial, that relate directly to aircraft equipment<br>• OPN-03: Total Spares and Repair Parts - Initial | Sum of:<br>• APN-06: Aircraft Replenishment Spares<br>• OPN-02: Spares and Repair Parts - Replenishment, that relate directly to aircraft equipment<br>• OPN-03: Total Spares and Repair Parts - Initial |
| **Ships and Shipboard Equipment** | |
| Sum of:<br>• SCN-01, 02, 03, 04, 05: Outfitting lines<br>• OPN-01: Total Spares and Repair Parts - Initial<br>• OPN-02: Spares and Repair Parts - Initial, that relate directly to ships and shipboard equipment | Sum of:<br>• OPN-01: Spares and Repair Parts - Replenishment<br>• OPN-02: Spares and Repair Parts - Replenishment that relate directly to ships and shipboard equipment |
| **Missiles** | |
| Sum of:<br>• WPN-01, 02: Initial Spares lines | Sum of:<br>• WPN-01, 02: Replenishment Spares lines |
| **Weapons and Ordnance** | |
| Sum of:<br>• WPN-03, 04: Initial Spares lines<br>• OPN-04: Spares and Repair Parts - Initial | Sum of:<br>• WPN-03, 04: Replenishment Spares lines<br>• OPN-04: Spares and Repair Parts - Replenishment |
| **Electronics and Telecommunications Equipment** | |
| • OPN-02: Total Spares and Repair Parts - Initial, not allocated to aircraft and ships | • OPN-02: Total Spares and Repair Parts - Replenishment, not allocated to aircraft and ships |
| **Other Equipment** | |
| Sum of:<br>• OPN-05, 06, 07: Spares and Repair Parts - Initial lines | Sum of:<br>• OPN-05, 06, 07; Replenishment Spares data not available |

[a]Category d, Combat Vehicles, is not applicable to the Navy.

## 2. Initial Spares and Repair Parts by Weapon System

Exhibit A-7 displays Procurement Annex spares information by weapon system. The data are grouped by aircraft and ships, since weapon system information will be shown only for systems that fall within these two categories. We recommend that weapon systems be defined as selected aircraft by type and model and ships by ship class only. To accumulate and display LRA information on aircraft by type, model, and series and ships by hull number would increase substantially the problem of allocating logistics resources. Furthermore, to show information at these lower levels of detail would increase significantly the margin for error in allocating the data.

Initial spares are identified by weapon system or ship class in the Procurement Annex for the Aircraft Procurement, Shipbuilding and Conversion, and Weapons Procurement Appropriations, so these resources can be readily identified for display in the LRA. Initial spares in OPN-01, OPN-02, and OPN-03, "Aviation Support Equipment," are shown on single lines in each BAC; the Procurement Annex does not show data on these spares by line item. We recommend that total OPN-01 spares be allocated to "Ships and Shipboard Equipment," OPN-03 to "Aircraft," and OPN-02 spares be allocated by materiel category. This will permit identification of these resources with materiel categories; no method is readily available to distribute OPN spares to aircraft weapon systems or ship classes in such a way that actual spares usage can be approximated.

It should be possible to identify some of the equipment line items in the OPN-01, -02, and -03 Budget Activity Codes with weapon systems. The Navy could then identify part of the OPN-financed initial spares with these equipment line items and, as a second step, identify them with aircraft weapon

## Exhibit A-7. RECOMMENDED USE OF PROCUREMENT ANNEX BUDGET CLASSIFICATIONS FOR SPARES AND REPAIR PARTS BY WEAPON SYSTEM

| Initial Spares | Replenishment Spares |
|---|---|
| **Aircraft by Type and Model** | |
| APN-01, 02, 03, 04: Initial spares line for selected weapon systems. | APN-01, 02, 03, 04: Data not available by weapon system. Allocation methods feasible. |
| OPN-02, 03: Aircraft data not available by weapon system. Allocation recommended only on a case-by-case basis. | OPN-02, 03: Aircraft data not available by weapon system. Allocation recommended only on a case-by-case basis. |
| **Ships by Class** | |
| SCN-01, 02, 03, 04, 05: Outfitting line for selected ship class. | OPN-01, 02: Data not available by ship class. Allocation recommended only on case-by-case basis. |
| OPN-01, 02: Data not available by ship class. Allocation recommended only on case-by-case basis. | |

systems and ship classes.[1] Most of the OPN-financed equipment and associated initial spares may have such general application that identification with a weapon system or ship class would have to be made by using statistical methods and using variables such as flying hours, steaming hours, or relative acquisition costs of the major systems. We recommend that where necessary, allocations of OPN-financed initial spares resources be made only on a case-by-case basis. These allocations can be done by the resource sponsors without creating a formal data system. We do not believe that statistical proration of OPN-financed resources on the basis of independent variables such as activity rates or acquisition costs would assist OSD in decisionmaking on logistics resources. Such prorations should be made only for display purposes, to reflect the maximum possible logistics resources needed in the materiel categories in order to help determine the relative resource requirements among these categories.

Resources financed by the Weapons Procurement Appropriation can be assessed in terms of their application to aircraft weapon systems and ship classes more easily. Therefore, some categories of the WPN-financed initial spares could be allocated by resource sponsor to these weapon systems and ship classes. We have recommended, however, that these spares not be allocated by weapon system. We doubt that these extensive allocations would aid OSD in decisionmaking in these important resource areas.

### 3. Replenishment Spares and Repair Parts by Weapon System

We recommend that those replenishment spares and repair parts financed by the Aircraft Procurement and Shipbuilding and

[1]Budget Form P-18a requires display of initial spares by line item for the 3 years covered in budget submissions. The problem in relating OPN initial spares to line items, therefore, is to prepare data for the outyears.

Conversion Appropriations be displayed routinely in the LRA by weapon system. If desired, some OPN-financed replenishment spares resources could be identified according to weapon systems on a case-by-case basis. We recommend this procedure with regard to OPN-financed resources, however, only because it is consistent with the method recommended for identifying initial spares resources. We believe that OPN-financed replenishment spares resources can be allocated with less accuracy than can resources for initial spares; therefore, except in the interest of consistency, we would not recommend that they be shown by weapon system in an LRA.

As was stated above, replenishment spares resources are displayed at a summary level by appropriation (and by Budget Activity Code) in the FYDP Procurement Annex. This is also the level at which replenishment spares and repair parts data are maintained in the NARM/FLAIL and the NCIS/FYDP. Navy programming and accounting systems do not routinely identify replenishment spares and repair parts by weapon system primarily because these items are managed on an aggregate basis in the Navy logistic system. Initial spares can be identified at the weapon system level since they are procured with each weapon system in order to satisfy the initial provisioning requirements for the newly procured system. However, replenishment spares resources are managed on an aggregate basis to incorporate the necessary flexibility into a logistic system characterized by uncertainty in demand and failure rates for specific end items and components. Although accounting systems could be established that would track specific spares items to specific weapon systems in use, such data are of questionable forecasting value unless the weapon system is very mature.

Recognizing the need for data, however, the Navy has established some methods for estimating past and potential usage. All of the methods involve some proration of spares

costs on the basis of independent variables considered to be determinants of replenishment spares requirements or measures of spares consumption. Some popular independent variables are flying hours, number and value of condemnations, relative cost of the basic weapon system compared to other weapon systems, and number of weapon systems in the inventory.

For general requirement studies the Navy has also distributed replenishment spares resources by weapon system on the basis of analytical judgment. These data have been developed in the office of the DCNO (Logistics), using inputs from the Ships Parts Control Center, the Aviation Supply Office, and resource sponsors on the CNO staff.

Currently, the Navy Visibility and Management of Support Costs (VAMOSC) program is developing estimating techniques for replenishment spares requirements by weapon system. Under this program methods have been developed to estimate historical replenishment spares consumption by compiling data on total condemnations by part number. This system could be the basis for suitable replenishment spares estimating techniques.

It would also be possible to use estimating techniques based on a separation of historical consumption information into data on peculiar spares and data on common spares. Data systems that record peculiar spares distribution from Navy depots can readily relate these resources to weapon systems. The common spares resources (estimated at 40 to 45 percent of the total) could be allocated to weapon systems through the use of independent variables such as those discussed above. A system of this type, using data only on centrally managed resources, could be less expensive than VAMOSC, which uses large amounts of data produced at field levels. On the other hand, since VAMOSC uses regular Navy field and depot logistic data systems, its cost may be considered acceptable to provide real-world accounting-type consumption data on logistic resources.

Regardless of which estimating technique used, the LRA should include program data on replenishment spares requirements for the Aircraft Procurement, and Shipbuilding and Conversion appropriations identified by weapon system. In the long run the method to produce these data could be based on a system to estimate the distribution of centrally managed spares to fill requisitions from the field or through further development of the VAMOSC system. In the short run these data can be estimated by the Office of DCNO (Logistics) and verified by VAMOSC experience data. If OSD decides that OPN-financed replenishment spares should be allocated to weapon systems, the Navy should do so on a case-by-case basis.

OSD may identify Marine Corps aircraft for display of logistic support resources by weapon system. If so, the procedure recommended above to display initial and replenishment spares by weapon system could be used to identify these resources by Marine Corps weapon system.

## 4. Summary

The Navy data systems already provide most of the information required for the LRA spares and repair parts resource displays. Spares and repair parts financed through the APN, SCN, and WPN appropriations can be identified reasonably well according to materiel category and APN and SCN resources by weapon system. The major issues are how to allocate OPN spares and repair parts resources to the materiel categories and what techniques should be employed to identify spares information by weapon system. We recommend that the Other Procurement appropriation resources be distributed among materiel categories through judgment based on analyses of the nature of the resources and experience. These methods should also be used to determine what OPN spares and repair parts information should be shown by weapon system. For all appropriations it may be necessary

to distribute some spares data to weapon systems by using statistical estimating techniques. In the long run, the use of historically based factors such as those developed in the VAMOSC program is preferable. The Materiel Division, DCNO (Logistics), OP-41, is the point of contact on the CNO staff to coordinate the preparation and submission of spares and repair parts information for the LRA.

## F. MODIFICATION, CONVERSION, AND ALTERATION PROGRAMS

Modification, conversion, and alteration programs consume large amounts of logistic resources and serve many purposes. At one end of the scale are extensive programs to make major modifications in existing systems because such programs are considered more cost-effective than acquiring a new weapon system. At the other are relatively low-cost programs aimed at improving weapon system reliability and maintainability. Modification, conversion, and alteration programs, regardless of scale, receive intensive management in DoD.

### 1. Aircraft Modification Programs

The Aircraft and Weapons Requirements Branch, DCNO (Air Warfare), OP-506, is the coordinator for aircraft modification programs. This office integrates information from various sources, primarily NAVAIR, into comprehensive programming and budgeting documents that describe these programs and justify them in depth. Although modification information is included in the NARM/FLAIL and NCIS/FYDP, such information is not sufficiently detailed nor is it organized into the categories needed for the LRA. OP-506 has all the information necessary to fulfill the LRA requirements; that office should be considered the source for LRA information not readily available from the Navy's regular FYDP data systems.

The Navy recommends the following format be used for display of aircraft modification resources in lieu of the format proposed by OSD. We concur that this format would be more appropriate.

a. Aircraft

(1) Conversion in Lieu of Procurement (CILOP)

(a) Service Life Extension (SLEP)
(b) Other CILOP

(2) Operational/Military Capability Improvements[1]
(3) Safety
(4) Reliability and Maintainability
(5) Other

We recognize that many modifications will fit into more than one category, but proper assignment can be made according to predominant purpose. An "other" category has been established to ensure that all aircraft modification programs are properly included in the LRA. This category could include special emphasis programs, such as the current electronic warfare modification programs, to which large amounts of resources are being applied. In the future other major programs may fall into this category, or it may be possible to eliminate it. In the meantime a narrative should accompany the LRA submissions to explain the nature and resources applied to "other" programs.

Certain aspects of the aircraft modifications program are important in that they affect how this program should be shown in the LRA. One of these is the funding of various elements. Aircraft modifications kits are funded by APN-1 or APN-5. APN-1 is used if the modification (updating) is performed while the aircraft is still on the production line; otherwise, the modification is financed by APN-5.[2]

If modifications are performed on contract in conjunction with procurement of the kits, the installation costs are financed

[1]These modifications cover improvements that are not part of CILOP programs. CILOP programs are intended mainly to improve the operational and military capabilities.

[2]Since updating programs are financed by APN-1 as part of initial weapon system procurement, it is not contemplated that resources expended on these programs be shown in the LRA.

by APN in the same year as the kit cost appropriation; however, OP-506 can separately identify these installation costs.

If the modification kits are to be installed by organic depot facilities, the installation costs are financed by the O&MN appropriation. O&MN would also finance the installation costs if modifications are performed by a contractor as part of the regular Navy depot maintenance program. In this latter situation, the Navy would normally procure the kits and provide them as government furnished equipment to a contractor who would perform the modifications along with other depot maintenance work on the aircraft. If O&MN finances the installation, the O&MN funds are budgeted and programmed in the year in which the modification is planned to be installed.

Some less complex modifications are performed by regularly assigned military personnel at the organizational or intermediate levels of maintenance. In these cases, installation costs are not separately identified because the modifications are done along with regular recurring maintenance--the modification installation costs cannot be isolated.

Initial spares for modifications are procured along with the kits. Enough spares are procured to satisfy the initial provisioning needs of the operation sites for the aircraft and usage needs for 2 years. In the Procurement Annex these initial spares are included in the aggregate APN-6 initial spares line, so it is necessary to secure these data from OP-506 by modification program.

Given all these variables, the aircraft modification program data should be shown in the LRA according to the following recommendations:

(1) In the section of the LRA that shows modification/conversion resources by materiel category, aircraft modification cost data should be shown by category of modification and separately for modification costs funded in APN-5, including such items as kits,

data, tooling, and special support equipment required to accomplish the modification. Modification spares funded in APN-6, and installation funded either in O&MN or APN should be non-add entries (to avoid double counting) because these costs are included in the LRA spares and maintenance functional categories, respectively.

(2) OP-506 can readily identify modifications by aircraft and by modification category for the LRA weapon system displays. Procurement and installation costs should be shown separately for equipment, spares, and installation costs, by appropriation, as was recommended for the materiel category displays.

(3) For Marine Corps aircraft it is recommended that data by materiel category and by weapon system be developed on the basis of the relative numbers of Navy and Marine Corps aircraft involved in the modification programs.

## 2. Ship Modification, Conversion, and Alteration Programs

The equipment which is used to carry out these programs is financed by two procurement appropriations. The Shipbuilding and Conversion (SCN) appropriation is used to finance both the equipment and the installation costs incurred to conduct Service Life Extension Programs and Conversions on Navy ships, and the Other Procurement (OPN) appropriation is used to finance alteration equipment. Alterations are carried out under the Fleet Modernization Program; the installation costs are financed by the Operations and Maintenance appropriation.

The SCN-financed conversion and SLEP programs are managed through designated program managers (the appropriate Ship Logistics Managers) at HQ, Naval Sea Systems Command. Each of these managers has a counterpart at the CNO level. Procurement data relevant to these programs are shown by ship class in the Procurement Annex, so information available in both the NARM/FLAIL and NCIS/FYDP can be utilized to display these data in the LRA categories Conversions (SCN) and Service Life Extension (SCN). The CNO and NAVSEA program managers can identify separately the equipment costs and installation costs associated

with these programs and can display these costs by fiscal year for budget and program years; in fact, the level of detail required for the LRA is routinely developed for the Navy POM, for the annual budget submission, and with each updating of the FYDP.

Approved ship alterations are shown in the OP-04 Fleet Modernization Program (FMP) backup data, which identify for the full FYDP period the approved alterations by year and by ship. Materiel procurement and installation planning are authorized only when an alteration appears in the programmed portion of the FMP.

The Navy has established formal planning and programming procedures under OPNAVINST 4720.2D, July 9, 1973, to ensure that the highest priority alterations are performed for each fiscal year. In accordance with the Instruction, the Chief of Naval Material must "ensure correlation of equipment procurement and installation planning to meet requirements of the Fleet Modernization Program." OP-436 is required to "Correlate hull, equipment and mission sponsors ... in development and justification of a phased procurement and installation plan to support the fleet modernization requirements."[1]

Two types of alterations are performed on Navy ships--military improvement alterations and technical improvement alterations. Military improvement alterations correspond to the LRA category "Operational/Military Capability." Technical improvement alterations are alterations intended to improve safety or increase reliability, maintainability, and efficiency of equipment. It is recommended that a category entitled "Safety" be added to the LRA category list to cover the

[1]OPNAVINST 4720.2D assigns this responsibility to the Chairman, Ship Acquisition and Improvement Panel, but OP-436 has assumed this responsibility. The responsibility is carried out through staff coordination by OP-436 program managers with platform sponsors.

safety-related technical improvement alterations. Alterations to improve efficiency of equipment could be included in the "Reliability/Maintainability" category.

The Fleet Modernization Program Branch, DCNO (Logistics), OP-436, the resource sponsor for the Navy's ship alteration programs, can identify alteration installation costs by desired LRA category and by fiscal year of installation. OPN-financed alteration resources are shown by line item in backup data submitted with the annual Navy budget. These data are updated periodically coincidental with preparation of the POM and updating of the FYDP. The OPN-financed resources can be shown by LRA category but currently the Navy does not have the capability to identify, using a single data source and on a consolidated basis, all of the OPN-financed alteration equipment by fiscal year of procurement and the corresponding complete list of OPN equipment by year of installation. Table IV-6 in Navy POM Annex D, CY 1977, is an estimate of the value of major items of OPN equipment being installed.[1] These data do not show the procurement year for any of these OPN resources.

The formal FMP planning and programming process prescribed by OPNAVINST 4720.2D requires that both NAVMAT and OP-436 develop, approve, and monitor an FMP that can be properly implemented by fiscal year and within the fiscal constraints for each affected appropriation. In order to discharge these responsibilities, both organizations need to be able to identify equipment and installation costs by specific programmed alteration and by year of procurement of equipment and corresponding year of installation. (Manual methods are currently employed to satisfy this need for data on major alterations.) We understand that the Navy has a project underway to provide this information through use of data automation methods. It is

[1]The Navy estimated that the values shown in Table IV-6 represent about 85 percent of the total value of all OPN equipment installed in each year.

anticipated that this system will be operational in support of the CY 1979 POM. Pending the implementation of the automated system for programming alteration resources, manual methods could be employed to fulfill LRA data requirements.

The LRA requires that initial and replenishment spares and repair parts be shown by materiel category and by selected weapon systems. Initial spares represent a large funding requirement in some modification, conversion, and alteration programs, and should be shown separately in the modifications section of the LRA. Initial spares and repair parts should be identifiable for all modification, conversion, and alteration equipment, since provisioning actions are required for such equipment as well as for major items and weapon systems. Thus, the Navy should be able to satisfy all of the LRA requirements associated with the ship modification, conversion, and alteration programs.

Our recommendations regarding the portrayal of the ship modification, conversion, and alteration programs are as follows:

(1) The four proposed OSD categories should be included in the LRA and a fifth category, "Safety," should be added.

(2) In the section of the LRA that shows modification/conversion resources by materiel category, ship cost data should be shown by category of modification/conversion/alteration and separately for basic equipment, initial outfitting and spares, installation--SCN, and installation--O&MN. The installation cost--O&MN should be non-add entries because these costs will be included on the Modification Installation line under "Ships" in the Depot Level Maintenance and Modification/Alteration Installation section of the LRA for the year of installation. Initial outfitting and spares costs should also be shown as non-add.

(3) The Navy should identify modification, conversion, and alteration costs, by ship class, by modification category for the LRA weapon system displays. Procurement and installation costs should be shown separately for equipment, outfitting and spares, and installation costs by source of funding, as was recommended for the materiel category displays.

## 3. Other Modification Programs

### a. Missiles

Data are maintained in the NARM/FLAIL and NCIS/FYDP to show the kit procurement costs for missile modifications by fiscal year and by equipment item. The criteria for funding procurement of modification kits, initial spares, and installations for missiles are the same as for aircraft and ships.

In view of the magnitude of these programs we recommend that the missile category be divided into four categories: Operational/Military Capability Improvements; Safety; Reliability and Maintainability; and Other. Modification equipment procurement should be shown in the year of funding. Non-add entries for WPN-financed and O&MN-financed installation costs should be shown, as well as non-add entries for initial spares. OPNAV resource sponsors would be the sources for data on these entries.

### b. Combat Vehicles

This category is not applicable to the Navy.

### c. Weapons and Ordnance

In the Navy this materiel category includes modifications to torpedoes, guns, and gun mounts with kits financed through the Weapons Procurement appropriations. We recommend that summary procurement data from the Navy PPBS-related data systems be consolidated to fulfill this LRA requirement. If OSD desires the display of non-add data on initial spares and installation costs, then data would have to be provided by the resource sponsors.

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d. Electronics and Telecommunications

Modifications are performed on numerous items of equipment in this category. Most of these programs are relatively small and do not justify separation of modifications into different categories or separate identification of procurement and installation costs. We recommend that this category be defined as modification of equipment items that would be procured by the OPN appropriation and identified within BAC 02, "Communication and Electronic Equipment," except for any items that may be involved in modifications programs falling under the overall Navy Fleet Modernization Program. Any of these latter items should be covered in the Ships category, discussed above. The data sources for electronics and telecommunications modification LRA information would be the Navy PPBS-related systems; the display should be limited to kit procurement costs.

e. Other Equipment

This category covers all modifications to equipment that are not included in the materiel categories discussed above. Kits for these modifications would be financed by the OPN appropriation. We recommend that only kit procurement costs be shown in the LRA in this equipment category. The sources of information for these costs are the Navy PPBS-related data systems. In preparing this entry, care will have to be exercised to ensure that modification costs for equipment covered in the Fleet Modernization Program and under the electronics and telecommunications materiel categories are excluded.

## G. DEPOT-LEVEL STORAGE AND DISTRIBUTION ACTIVITIES

Depot-level supply storage, warehousing, distribution, and traffic management activities are conducted at the NAVSUP Supply Centers. The LRA requires only data on the total resources programmed for this function. The Navy programs all resources for this function in PEs 71111 and 57203, "Supply Depots/Operations." As a result, both the NARM/FLAIL and the NCIS/FYDP can provide the aggregate manpower and dollar data elements required to support the LRA.

## H. CENTRAL INVENTORY MANAGEMENT ACTIVITIES

Depot-level stock control, cataloging, item management, and support activities are accomplished at the Aviation Supply Office (ASO), the Ships Parts Control Center (SPCC), the Fleet Material Support Office, and the Food Service Systems Office. The LRA requires only data revealing the total resources programmed for this function. The Navy programs all resources for this function in PEs 71112 and 57204, "Inventory Control Points." As a result, both the NARM/FLAIL and the NCIS/FYDP can provide the aggregate manpower and dollar data elements required to support the LRA.

While display of total resources at the PE level is probably currently sufficient for this logistic function, subsequent efforts will have to address the question of providing additional detail.[1] The problem of standardizing the definitions of the Services' various supply-oriented logistics functions must also be addressed. This might include adopting a proposed revision of DODI 7220.17,[2] which prescribes a minimum cost account structure for central supply activities.

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[1] See, for example, Morgan, et al., *A Phase I Report*, p. 61.

[2] DODI 7220.17, *Cost Accounting for Central Supply Management, Industrial Preparedness and Terminal Operations*, December 22, 1966.

## I. PROCUREMENT OPERATIONS AND CONTRACT ADMINISTRATION SERVICES

The LRA includes separate functions under the Supply Systems Operations category for procurement operations and contract administration services. Preliminary discussions with the Navy indicate that manpower and dollar resources for these activities are not identified separately by these functions. Some modification to existing procedures and data systems will therefore be necessary.

We recommend that the proposed LRA structure be revised to include three subcategories under Procurement Operations: Central Procurement Operations, Central Contract Administration, and Other Procurement Operations (non-BOS). Resources programmed for all procurement activities under this function except those that are considered a part of the regular base function will thus be displayed here. This latter category will be included in the Installations and Facilities Support section of the LRA.

General centralized procurement operation functions and contract negotiation and administration are accomplished primarily in the Navy Regional Procurement Offices, Navy Plant Representative Offices (NAVPROs), and Supervisors of Shipbuilding Conversions and Repairs (SUPSHIP) Offices. Resources to support these functions are programmed by the Navy in PEs 71113 and 57205, "Procurement Operations." As a result, both the NARM/FLAIL and the NCIS/FYDP can provide aggregate manpower and dollar data at the PE and UIC levels. Because these functions are centrally managed and over 90 percent are funded in the O&MN appropriation, development of the required data would

appear to be feasible. DODI 7220.17 prescribes a minimum cost account structure for use by offices performing these functions. This directive provides for separation of contract administration activities, and separate output measures are prescribed. These same categories are used in the budget exhibits. For example, the OP-17 requires separate performance data (e.g., number of contracts administered). If required, these two sources could be used to develop allocation schemes to separate PE resources into the two broad categories in the LRA structure.

BCCs currently exist within the Navy financial management system that would facilitate input and retrieval of data according to these two categories (S1, "Supply Support Operations"--SC, "Procurement Operations"; and S2, "Inspection and Contract Administration"). Improved discipline in use of these two codes will provide increased visibility.

## J. INTERMEDIATE AND ORGANIZATIONAL SUPPLY

Organizational supply functions are those performed in the using organization and intermediate functions are performed by units specifically established to provide logistic support to operational units. Resources in these categories are not currently entered into the NCIS/FYDP or NARM/FLAIL data management systems by unique code identifiers. Data could be developed through the creation of appropriate BCCs to identify dollar and manpower resources programmed for these functions. The use of BCCs for this purpose was discussed in detail in Chapter II.

## K. SECOND DESTINATION TRANSPORTATION

In the Navy, all funds to pay for the movement of cargo are centrally managed by NAVSUP. The O&MN customer dollars used to purchase these services are displayed in PE 78010, "Second Destination Transportation."[1] As a result, total funds for this function are available in both the NCIS/FYDP and the NARM/FLAIL. These data systems, however, do not currently separate these resources into the subcategories required by the LRA.

Currently, the Navy is required to prepare budget exhibits (OP-5 and OP-16)[2] that display data on Second Destination Transportation resources. These exhibits require that data in PE 78010 be displayed in the following categories.

a. Transportation
   (1) MAC
   (2) MSC
   (3) Other

b. Terminal Services

As a result, Navy claimants include data in these categories for the 3-year period shown in their OP-5 budget submissions. The Fiscal Management Division (OP-921) consolidates the individual submissions in the OP-16 budget exhibit so that the

[1]Note that this category has been defined to address only the resources in PE 78010. Similar services provided at other levels (e.g., inhouse terminals) are excluded, generally on the assumption that they are properly included elsewhere in the LRA (e.g., BOS).

[2]OP-5, "O&M Detail by Program Element Detail;" OP-16, "Transportation of Things."

total resources in the above categories can be easily identified. In addition, OP-921 is responsible for developing the required outyear program element totals for each FYDP update. Thus, it should be possible to expand the outyear information in the NCIS/FYDP and the NARM/FLAIL to reflect resource requirements at the same level of detail as shown in the budget exhibits.

Because the categorization shown above must be prepared by the Navy to support OSD budget submission requirements, and because it provides meaningful insight into the uses of all resources in this functional category, we recommend that the proposed LRA structure be revised to include these categories. Those resources used to purchase services from MAC (air) and MSC (sea), which make up the largest share of movement costs, are separately identified. All other resources used to purchase cargo movement services (including purchase from commercial activities) are combined into a single category, even though the Navy divides these resources into several smaller categories in the budget exhibits. Since these categories cover relatively small amounts of resources, it is recommended that they not be used in the LRA. Summary level data should be adequate. Finally, the resources in the Terminal Services category are funds used to purchase terminal services from organic IF and commercial activities.

Several BCCs are already used by the Navy in various ways to identify Second Destination Transportation in the NCIS/FYDP and the NARM/FLAIL: T1, "Transportation and Terminal Services"--TA, "Transportation," and TB, "Terminal Services." Moreover, the TA category could easily be expanded to provide separate codes for entering resources programmed to purchase services from MAC, MSC, and other activities. Thus, it would be possible to retrieve data from the NCIS/FYDP and the NARM/FLAIL in the categories required to support the LRA.

## L. AIRLIFT OPERATIONS (MAC), SEALIFT OPERATIONS (MSC), AND TRAFFIC MANAGEMENT AND TERMINALS

The LRA structure requires that the total resources programmed for each of these three transportation functions be displayed as one-line entries. Since these activities are industrially funded, they are well defined at the program element level and all data required to support the LRA are readily available in the FYDP. While a display of resources derived by aggregating PE totals may be adequate for the initial LRA, subsequent LRAs should provide improved visibility of those resources consumed in providing these services.

In terms of the Navy input into the LRA, only the Sealift Operations category is of immediate concern, since the Navy plays a primary role in managing this activity. (Resources programmed to provide services included in the Other two categories are treated in the other volumes of this study.) The Sealift Operations category is precisely defined in the FYDP to include resources in the PEs shown in Table A-3. These PEs are grouped into four categories to emphasize the major types of sealift services included in the overall functional category. These four categories are the ones currently used by MSC to display resources programmed for this function.

Although we do not recommend that this categorization be included in the initial LRA, it does indicate the importance of expanding coverage of this very important industrially funded program. In this initial classification, resources for port terminal operations (43111) and traffic management (43113)

Table A-3. SEALIFT OPERATIONS SUBCATEGORIES AND ASSOCIATED PROGRAM ELEMENTS

| Sealift Operations | Associated Program Elements | |
|---|---|---|
| | Commercial | MSC |
| Cargo (Other Than POL) | 42121<br>42122<br>42125<br>42126 | 42113<br>42114 |
| POL | 42124<br>42123 | 42117 |
| Project Ships[a] | | 42118 |
| MSC Support | | 43111<br>43113<br>42167 |

[a] These are special purpose (nontransportation) ships operated by MSC for Navy claimants who reimburse MSC for total annual costs.

that in the FYDP are categorized as Sealift Operations are shown in the support category. This approach is consistent with the OSD structure that limits the Traffic Management and Terminals category under Transportation to MTMC.

As with other NIF activities, the A-2 and A-3 Budget Statements provide a basis for improving the displays of resources consumed in providing sealift services. Our earlier remarks regarding the desirability of improving coverage of industrially funded activities apply here as well. In the initial LRA, it is proposed that resources displayed be limited to the total manpower and direct funds contained in the PEs listed above.

## M. INTERMEDIATE AND ORGANIZATIONAL TRANSPORTATION

Organizational transportation functions are those performed in the using organization and intermediate functions are performed by units specifically established to provide logistic support to operational units. Resources in these categories are not currently entered into the NCIS/FYDP or NARM/FLAIL by unique code identifiers. Data could be developed through the creation of appropriate BCCs to identify dollar and manpower resources programmed for this function. Use of BCCs for this purpose was discussed in detail in Chapter II.

## N. AIRCRAFT, VEHICLE, AND SHIP FUEL

Data are not entered into the NCIS/FYDP or NARM/FLAIL according to these categories. The OP-20 and OP-40 budget exhibits provide data for fuel for aircraft (using flying hours) and ships (using steaming hours) by PE. These data could be extended by the claimants to include the outyears.

Broad BCCs currently include aircraft and ship fuel along with other consumables. The necessary data are available at the claimant level, however, so that unique fuel BCCs would enable the claimants to input the required data.

"Other fuel" data are currently coded using various BCCs that report station operations activities. A separate BCC is required in order to obtain visibility of this OSD-LRA functional line.

## 0. PERSONNEL SUPPORT MATERIEL

Resources spent for "Subsistence" and "Clothing and Medical Supplies" are part of the average rates used in the DNFYP for costing military personnel services. The rates are identified in DoD Handbook 7220.9H, *DoD Accounting Guidance Handbook*. Although not entered directly into the NCIS/FYDP or NARM/FLAIL in these particular categories, the required data can be provided by OP-01 and BUPERS-31.[1] Because these data are already included elsewhere in the LRA displays of military personnel costs (as part of the average rates used to compute these costs), the data will have to be entered here as non-add entries.

[1]The Navy uses average rates in the NARM/FLAIL to distribute total military personnel costs statistically for each FYDP update. The Navy indicates that these rates can be adjusted to identify costs for subsistence. Total subsistence can then be provided for each fiscal year as the single line required by the LRA.

## P. OTHER CONSUMABLE SUPPLIES AND MATERIALS

Other consumable supplies and materials refers to the nonmaintenance expendables that are utilized by the Navy. Maintenance expendables are identified under the organizational and intermediate maintenance categories in the OSD-LRA structure.

In the NCIS/FYDP and NARM/FLAIL data management systems, nonmaintenance consumables are input using several BCCs, including BCC BA, "Aircraft Operations," BCC DC, "Ship Supplies and Equipage," and BCC F3, "Station Operations." Because none of these BCCs contains exclusively nonmaintenance consumable materials, analysis by the claimants is required to determine what portion of each BCC is relevant. BCCs should be established that separately identify these nonmaintenance consumables. The data to be input using these new BCCs can be developed from the OPTAR reports by identifying maintenance and all other OPTAR separately.

## Q. MUNITIONS FOR PEACETIME OPERATIONS AND TRAINING

Volume IV of the Navy POM and data submitted with the annual Navy budget provide the information needed for this category of the LRA. Updating of these data is required for the January FYDP. The only action necessary by the Navy is to select the proper line items of information and aggregate them into the three LRA categories. Data can be separated into Navy and Marine Corps requirements.

Additional information on this category of resources is provided in the discussion of information sources for the LRA category "Logistics Support of Post D-Day Combat Sustainability--War Reserve Stockage" (see next page).

The point of contact for preparation of these LRA data is OP-41C.

## R. WAR RESERVE STOCKAGE

The annual SECDEF Consolidated Guidance requires that the Navy develop and submit to OSD extensive information on funding requirements to meet Navy materiel support goals. Similarly detailed information must be developed to support the annual budget submission and to update the FYDP when approved budget levels have been determined.

The detailed information developed for the POM and each updating of the FYDP permits the Navy to fulfill all of the LRA information requirements in this logistic support category. Separate data can be developed for the Navy and Marine Corps LRA displays. Some of this information is directly available in the NARM/FLAIL and NCIS/FYDP; other information will have to be compiled manually. For example, procurement of Aviation War Consumables is directly available from the data systems. However, Procurement of Ammunition (Air) would have to be divided into amounts for operations and training and amounts for war reserve stockage, since the two Navy PPBS-related data systems show procurements of this type on a consolidated basis.

The point of contact for preparation of these LRA data is OP-41C.

## S. INDUSTRIAL PREPAREDNESS OPERATIONS

Industrial preparedness activities include operations necessary to establish and maintain the industrial base (both government owned and privately owned) needed to support current, wartime, or other contingency military requirements. These include modernization and replacement of facilities and equipment. This program is outlined in various DoD regulations and DODI 7220.17, December 22, 1966,[1] prescribes a minimum cost account structure for use by the Services.

PE 78011, "Industrial Preparedness," has been established to provide a standard PE for all Services to use to display these resources. However, it appears from discussions with OP-41C, the Navy's coordinator for these activities, that differences in programming and accounting for industrial preparedness resources may create problems in comparing resources among the Services. For example, the Navy includes funds for industrial facilities in total program costs for ongoing programs but transfers these resources to PE 78011 only after production ends. The timing of this transfer may produce inconsistencies in the data presented for the Services, particularly between data for the Navy and the Army.

The Navy includes resources for manufacturing technology, sealift enhancement, industrial preparedness planning, and reserve plant equipment in PE 78011 and, although these are not

[1] *Cost Accounting for Central Supply Management, Industrial Preparedness and Terminal Operations*, DODI 7220.17, December 22, 1966.

currently identified separately, they can be matched to the appropriate category in the LRA structure. Additional BCCs would have to be established to facilitate automatic retrieval of these data from the NCIS/FYDP and the NARM/FLAIL.

We propose that the OSD structure be retained for the initial LRA, pending additional research into this function. The Navy will be able to identify the resources in PE 78011 to the categories shown. During the implementation stage it may be necessary for the cognizant OSD staff offices to issue guidance on how resources are to be programmed to ensure consistency among the Services. OASD/MRA&L may wish to reconsider the LRA structure for this section at that time.

## T. LOGISTICS MANAGEMENT HEADQUARTERS

All manpower and dollar resources for major logistics headquarters[1] are included in PE 72898N, "Management Headquarters (Logistics)." As a result, data are readily available in both the NARM/FLAIL and the NCIS/FYDP to support the LRA.

Except for the O&MN appropriation, the data required to support the LRA can be extracted at the PE level. For O&MN, it will be necessary to adjust the PE total to subtract resources for Base Communications and for logistic functions, such as Real Property Maintenance Activities (RPMA), which are to be displayed elsewhere in the LRA. This should not be difficult, however, since a specific BCC (F6) exists for identifying O&M resources for command. Other BCCs are available for use by claimants for identifying other O&M resources.

[1]Currently, the only resources included in this PE are those to support NAVMAT Headquarters and the five SYSCOMS.

## U. LOGISTICS SUPPORT EQUIPMENT

Defining the logistic support equipment categories is one of the more difficult problems that must be solved in establishing an LRA. Many different resource sponsors are responsible for the different categories of support equipment, and it is not always clear what constitutes this kind of equipment.

The Procurement Annex is the source for information on this equipment, although in some cases it may be necessary to obtain supplemental information from resource sponsors. The most important task is to establish the proper categories in the LRA so that the annex satisfies OSD requirements and includes what properly constitutes logistic support equipment.

We recommend that the following categories be used for display of logistic support equipment. Under each category are listed the sources in the Procurement Annex from which information on this equipment can be obtained for the LRA. We have retained some of the OSD categories because we assume they are special interest items, although they are either relatively low in value or could properly be included in other categories. The recommended categories and data sources are as follows:

### 1. Aircraft Logistic Support Equipment

APN-07 Common Ground Equipment
OPN-03 Aircraft Support Equipment--Selected Items

2. Ship Logistic Support Equipment

OPN-01 Ship Support Equipment--Selected Items

OPN-04 Ordnance Support Equipment--Selected Items

3. Missiles Logistic Support Equipment

WPN Selected Items

4. Weapons and Ordnance Logistic Support Equipment

WPN-03 Torpedo Support Equipment

WPN-04 Gun Support Equipment

OPN-04 Ordnance Support Equipment--Selected Items

5. Electronics and Telecommunications Logistic Support Equipment

OPN-02 Selected Items

6. Civil Engineering Support Equipment

OPN-05 Civil Engineering Support Equipment
Total BAC except: Collateral Equipment

7. Maintenance Support Equipment

OPN-01, 02, 04 Calibration Equipment

OPN-02 General Purpose Test Equipment

OPN-03 Specialized Test Equipment

OPN Other Selected Items

8. Supply Support Equipment

OPN-06 Supply Support Equipment--Total BAC

9. Logistic ADP Equipment

OPN-07 Computer Acquisition Program--Limited to equipment designed primarily for logistic support operations.

10. Productivity Enhancement Investment

OPN-07 Productivity Enhancement

We recognize that this equipment may not include every possible logistic support equipment item that should be included in the LRA. It will be necessary to work with the Navy to identify all specific items during system implementation. Furthermore, methods must still be developed to separate Marine air support equipment from Navy air support equipment.

OP-41C is the point of contact for this section of the LRA.

## V. PROPERTY DISPOSAL

The LRA requires a display of resources programmed for centrally managed property disposal functions. The Navy identifies limited resources in PE 78012, "Logistics Support Activities," and PE 78017, "Maintenance Support Activities," to perform this function. The Navy uses summary BCCs to input these data into the NCIS/FYDP, since detailed BCCs are not provided. Additional BCCs will have to be established if these resources are to be separately identified in the FYDP data base.

The Defense Logistics Agency (DLA) is responsible for DOD-wide disposal of excess property. A total of over 5,000 people, assigned to a worldwide network of Defense Property Disposal Offices, provide this service. The operation is conducted under a management fund concept which essentially covers costs. Resources are displayed in PE 78012S.

Our discussions with personnel in OP-04 and NAVSUP revealed that the property disposal function represents an insignificant workload for the Navy. Transactions involving property disposal as part of central supply activities are considered to be an insignificant part of daily routine operations. As a result, resources for this function are not separately identifiable.

For these reasons, we recommend that no effort be made to identify Navy resources used for a separate property disposal function. However, in terms of the overall OSD structure, the function should be retained in order to display associated DLA

resources should OSD subsequently decide to display resources consumed by the Defense Agencies in the LRA. In terms of location in the structure, this function may more appropriately be included under Central Supply Operations.

## W. INACTIVE EQUIPMENT STORAGE AND MAINTENANCE

All resources contained in PE 78015, "Naval Inactive Ship Maintenance Facilities," and PE 78016, "Naval Contingency Reserve Aircraft," can be identified to this LRA category. As a result, both the NARM/FLAIL and the NCIS/FYDP can provide the required data elements. BCCs Q1, "Inactive Equipment Maintenance Facilities," QA, "Ship Inactivations," QB, "Other Ship Inactivation Support," and QC, "Contingency Reserve Aircraft," are already available for use in entering O&M resource information into the data systems. Currently, only the summary BCC Q1 is used, but by using all of the available BCCs it is possible to provide, through the NCIS system, more detailed information than is required by the LRA.

## X. OTHER LOGISTICS ACTIVITIES

The LRA requires that all resources in FYDP Program 7, "Central Supply and Maintenance," be included. The purpose of this category is to display all Program 7 manpower and dollars in the O&M and MPN appropriations that are not included elsewhere in the LRA. This category will include no investment related resources since all of these resources have been included in other categories in the LRA.

The data elements in this category are defined at the PE level to include the following activities:

- PE 72033--"Printing (IF)"
- PE 72037--"Public Work Centers (IF)"
- PE 72237--"Public Work Centers (non-IF)"
- PE 72891--"Commissary"
- PE 78110--"Support to DLA"

Both the NARM/FLAIL and NCIS/FYDP can furnish the required data elements. For the non-IF activities, manpower and dollar data (by appropriation) will be displayed. For the IF activities in the above list, only authorized end-strengths will be displayed. The funds to purchase services from these activities are included in the operating budgets of all customers requiring these services, but they will not be separately identified in the LRA because, according to research accomplished to date, Navy

claimants do not separately identify these costs but rather include them in general level-of-effort support categories.

The services provided by the resources in the PEs listed above are readily identifiable from the PE titles. The Public Work Centers perform installation support-type services. The resources in the Commissary PE finance services not covered by the commissary surcharge. The resources in PE 78110 consist essentially of Navy military manpower assigned to DLA. The Navy is reimbursed by DLA for the pay and allowances of these personnel.

## Y. FACILITIES CONSTRUCTION (LESS HOUSING)

Navy military construction funds provided through two appropriations, Military Construction Navy (MCN) and Military Construction Navy Reserve (MCNR), are not displayed in unique construction PEs in the FYDP. Instead, in each PE the funds are displayed as a single line entry for each fiscal year, and each entry is the sum of the MCN or MCNR projects assigned to the UICs included in that PE. As a result, there is no display of MCN and MCNR resources by functional type (aircraft maintenance facilities, administrative facilities, utility facilities) in the FYDP. However, MCN and MCNR data that can be tracked to most of the OSD-LRA functional categories are regularly updated in the NARM/FLAIL and NCIS/FYDP data management systems, and these data can be accessed to provide LRA facilities construction displays. Data for the remaining OSD-LRA functional categories can be developed from NAVFAC reports and from OP-44 and NAVFAC staff analyses.

### 1. Data in the NARM/FLAIL and NCIS/FYDP Data Management Systems

MCN and MCNR data are entered into the NARM/FLAIL and NCIS/FYDP by category stub code, resource category code, and UIC. There is only one category stub code for construction resources (2AA), which makes this level of aggregation unacceptable for LRA display purposes. The RCCs do provide usable detail because they are developed from the functional construction category codes provided in DODI 4165.3, *DoD Facility Classes and Construction Categories*, September 1, 1972, and NAVFAC P-72, *Investment Categories*, June 1, 1975.

## 2. Construction and Investment Category Codes

The construction category codes are organized by the Navy into 18 broad investment groupings, and many of these investment categories are identical to OSD-LRA facilities construction functions. Exhibit A-8 shows the relationships between these investment categories and the LRA functions.

One of the Navy investment categories, "Troop Housing and Messing," is not included in the OSD LRA "Facility Construction (Less Housing)" list of functions, but it is included under a separate category, "Housing." As shown in Exhibit A-8, excluding troop housing and messing, the Navy investment categories entered by RCC into the NARM/FLAIL and NCIS/FYDP account for all construction projects funded from MCN. As can also be seen by examining the exhibit, the OSD-LRA functional categories require additional entries.

POMCUS[1] and NATO Infrastructure are Army programs and do not receive Navy MCN or MCNR dollars. The Guard and Reserve function is easily handled. The Navy uses the same 19 investment categories to identify MCNR projects, and the single total is available to be entered into the OSD-LRA function. The remaining OSD-LRA categories are not discrete Navy investment categories or construction categories in DODI 4165.3 or NAVFAC P-72. However, they can be developed from NAVFAC reports submitted to OP-44, which separately identify each MCN construction project according to "primary investment program codes" in addition to facility investment categories and construction categories. These codes provide a program-oriented set of categories for military construction management. These primary investment programs include air pollution control, water pollution control, and energy conservation. Nuclear security is a component of the "Weapons Security Improvement" primary investment program and

[1]Prepositioned Materiel Configured to Unit Sets.

## Exhibit A-8. RELATIONSHIPS BETWEEN NAVY INVESTMENT CATEGORIES AND LRA FUNCTIONS

| Navy Facility Investment Category | LRA Facility Construction (Less Housing) Functions |
|---|---|
| Aviation Operations<br>Waterfront Operations<br>Other Operations<br>Training | Operations and Training |
| Communications Operations | Telecommunications |
| Aviation Maintenance/Production<br>Shipyard Maintenance/Production<br>Other Maintenance/Production | Maintenance |
| RDT&E | R&D |
| POL Supply and Storage | POL Supply and Storage |
| Ammunition Supply and Storage | Ammunition Supply and Storage |
| Medical | Medical |
| Administrative | Administrative |
| Other Personnel Support and Services | Community |
| Utilities<br>Real Estate and Ground Structures | Utilities, Real Estate Acquisition, etc. |
| Troop Housing and Messing | (Shown in a separate category in the LRA) |
| Included throughout the categories above | Air Pollution Control<br>Water Pollution Control<br>Nuclear Security<br>Energy Conservation |
| Continuing Authority | Minor Construction<br>Planning and Design<br>Contingency |
| Reserve Appropriations shown separately by above categories | Guard and Reserve |
| Navy resources not programmed in these categories | POMCUS<br>NATO Infrastructure |

can be developed for the OSD-LRA by NAVFAC and OP-44 staff analysis. These data, sorted by primary investment program code, would have to be entered into the appropriate OSD-LRA category as non-add entries in order to prevent double counting, since the programs they identify would already have been entered into the LRA as one of the Navy investment categories.

The Navy "Continuing Authority" investment category includes minor construction, planning and design, and other continuing authority programs. The OSD-LRA structure identifies the other programs as "Contingency" programs.

Exhibit A-9 shows each OSD-LRA facilities construction (less housing) function and the source of Navy data for it.

# Exhibit A-9. NAVY DATA SOURCES FOR LRA FACILITIES CONSTRUCTION (LESS HOUSING) FUNCTIONS

| LRA Facilities Construction (Less Housing) Function | Source of Navy Data |
|---|---|
| Operations and Training | NAPM/PLAIL and NCIC/FYDP by PCC for aviation operations, waterfront operations, other operations, and training facilities. |
| Telecommunications | NAPM/PLAIL and NCIC/FYDP by PCC for communications operations facilities. |
| Maintenance | NAPM/PLAIL and NCIC/FYDP by PCC for aviation maintenance and production, shipyard maintenance and production, and other maintenance and production facilities. |
| R&D | NAPM/PLAIL and NCIC/FYDP by PCC. |
| POL Supply and Storage | NAPM/PLAIL and NCIC/FYDP by PCC. |
| Ammunition Supply and Storage | NAPM/PLAIL and NCIC/FYDP by PCC. |
| Other Supply and Storage | NAPM/PLAIL and NCIC/FYDP by PCC. |
| Medical | NAPM/PLAIL and NCIC/FYDP by PCC. |
| Administrative | NAPM/PLAIL and NCIC/FYDP by PCC. |
| Community | NAPM/PLAIL and NCIC/FYDP by PCC for Other Personnel Support and Services. Troop housing and messing are not included here. |
| Utilities, Real Estate Acquisition, etc. | NAPM/PLAIL and NCIC/FYDP by PCC for Utilities and Real Estate and Ground Structure facilities. |
| Power G | Not a Navy program. |
| NATO Infrastructure | Not a Navy program. |
| Guard and Reserve | NAPM/PLAIL and NCIC/FYDP by MCNR appropriation. |
| Minor Construction | NAPM/PLAIL and NCIC/FYDP by PCC. |
| Planning and Design | NAPM/PLAIL and NCIC/FYDP by PCC |
| Contingency | NAPM/PLAIL and NCIC/FYDP by PCC for other continuing authority excluding minor construction and planning and design. Many require NOP-44 or NAVFAC staff analysis. |
| Air Pollution Control (non-add) | OP-44 and NAVFAC staff analysis to sort MCN projects by "primary investment program" code number 04. |
| Water Pollution Control (non-add | OP-44 and NAVFAC staff analysis to sort MCN projects by "primary investment program" code number 05. |
| Energy Conservation (non-add) | OP-44 and NAVFAC staff analysis to sort MCN projects by "primary investment program" code number 07. |
| Nuclear Security (non-add) | OP-44 and NAVFAC staff analysis to sort MCN projects by "primary investment program" code number 08 and further by nuclear facility. |

## Z. COLLATERAL EQUIPMENT

Collateral equipment is equipment that is purchased to go into facilities constructed with MCN or MCNR appropriations. There are two kinds of collateral equipment, "installed" and "personal property." Installed collateral equipment is built into the facility and is considered to be permanently affixed. Examples are builtin furniture, cabinets and shelving, elevators, central air-conditioning systems, and waste disposers and incinerators. Both the procurement and the installation costs of such equipment are paid for out of the MCN or MCNR funds financing the facility to which the equipment is attached. Because installed equipment is treated as a permanent part of the facility, funds for the procurement and installation of the equipment are not separately identified in the budgeting or programming of MCN and MCNR funds, and we do not recommend such a display.

The second category of collateral equipment contains equipment that is not built into and permanently affixed to the facility but is "severable." Examples are processing, production, technical, training, servicing, and RDT&E equipment. The procurement costs for personal property collateral equipment are paid out of procurement, RDT&E, O&MN, and O&MNR appropriations, and installation costs are paid out of O&MN, O&MNR, and RDT&E appropriations. We recommend that personal property collateral equipment be established as a new line item in the OSD-LRA structure, becoming item IVA3.

Currently, personal property collateral equipment data are available for those collateral equipment appropriations administered

by the Naval Facilities Engineering Command (NAVFAC): OPN, RDT&E, O&MN, and O&MNR. All OPN collateral equipment is managed by NAVFAC and installed with NAVFAC-administered O&MN and O&MNR funds through the NAVFAC Engineering Field Divisions (EFDs) shown in PE 78012 ("Logistic Support Activities") and PE 58171 ("Base Operations Naval Reserve"). In addition, these O&MN and O&MNR funds pay for expense item collateral equipment. The OPN data are currently visible in the Procurement Annex and are separately identified under Budget Activity 5 ("Civil Engineering Support Equipment"). The O&MN and O&MNR data are available in the NARM/FLAIL and NCIS/FYDP data management systems under BCC RW, "Collateral Facilities Equipment." The RDT&E data are available through OP-44 (Shore Facilities Programming) with support from NAVFAC.

Collateral equipment procurement and installation costs budgeted and programmed outside of NAVFAC are a more difficult problem. Only NAVFAC uses BCC RW to input its O&MN and O&MNR collateral equipment dollars into the NARM/FLAIL and NCIS/FYDP. Other claimants do not report their collateral equipment installation costs or their collateral equipment expense items in separate BCCs, but report these costs in several different BCCs that contain many other costs as well. Appropriate BCCs would have to be established to permit separate reporting of O&MN and O&MNR collateral equipment costs by all claimants.

Procurement appropriations purchases of collateral equipment, other than by NAVFAC-managed OPN dollars, are not separately displayed in the Procurement Annex. New P-1 line items would have to be established in the procurement appropriations for collateral equipment if this detail is desired. Resource sponsors and claimants would have to work out the details of displaying collateral equipment. As an example, APN Budget Activity 7, "Aircraft Support Equipment and Facilities," reports collateral equipment at naval air rework facilities and the Naval Avionics Center under the budget activity subhead

"Aircraft Industrial Facilities." But more than collateral equipment is displayed in this subhead, so a separate collateral equipment subhead will have to be established. Because of the relatively small quantity of resources involved here, we do not recommend requiring that the non-NAVFAC-managed collateral equipment be separately reported and identified in the LRA.

## AA. HOUSING

Family housing data are directly available in six discrete FYDP PEs that are equivalent to the five OSD-LRA functional categories. Since the detail is readily available, we recommend that the OSD-LRA categories be expanded from five to six to be congruent with the FYDP PEs and that the PE titles be adopted as the OSD-LRA titles. The current PEs and OSD-LRA categories are shown in Exhibit A-10. OP-44 and NAVFAC are the CNO and SYSCOM managers for the family housing appropriation.

Exhibit A-10. FAMILY HOUSING PES AND OSD-LRA FUNCTIONS

| Family Housing Functions | |
|---|---|
| FYDP PEs | OSD-LRA |
| 88741N--New Construction<br>88742N--Improvements | Construction |
| 88744N--Leasing | Leasing |
| 88745N--Operations | Operations |
| 88746N--Maintenance | Maintenance |
| 88743N--Debt Payment | Debt Service |

Troop housing construction is one of the 18 Navy investment categories that is identified by a unique RCC in the NCIS/FYDP and NARM/FLAIL, and as a result these data are available from these systems as an input into the OSD-LRA. They are managed as part of the MCN and MCNR appropriations by OP-44 and NAVFAC.

## BB. REAL PROPERTY MAINTENANCE ACTIVITIES

Real property maintenance activities are budgeted and reported to Congress in four categories: Maintenance and Repair, Utilities Operations, Other Engineering Support, and Minor Construction. These activities correspond to functional category codes M, N, P, and R, respectively, in the NAVCOMPT expenses and gross adjusted obligations coding structure contained in operating budgets financed by O&MN.

In the NARM/FLAIL and NCIS/FYDP, maintenance and repair and minor construction data are entered by BCCs FA and FB for the POM and FYDP years. Some claimants use a summary BCC, F4, to enter the sum of maintenance and repair and minor construction. In order to assure visibility of both categories in the NCIS/FYDP and NARM/FLAIL, claimants must be directed to use the FA and FB BCCs and not the F4 summary.

Currently, there are no unique BCCs for utilities operation and other engineering support. Both of these are generally steady-state activities, and the outyears are straight-lined from the budget year by the claimants. The data are entered into the data management systems using BCC F3, "Station Operations," which covers a wide variety of specific activities. Because the data for these categories do exist at the claimant level, it is feasible for claimants to enter the data using unique BCCs that could be created for each of the two activities. Until FY 77 unique BCCs did exist for Utilities Operations (FC) and Other Engineering Support (FD), but they are not in the current NAVCOMPT Manual BCC listing.

## CC. BASE OPERATIONS: OTHER SERVICES AND SUPPORT

The OSD-LRA category Base Operations is not conventional base operating support (BOS), which is identified in the CINCPACFLT and CINCLANTFLT O&MN budget submissions as Real Property Maintenance Activities (RPMA) and Base Services (BS).

There are unique BCCs for station operations and base communications. The BCC for station operations, F3, includes costs for administration, fire protection, guard services, supplies and materials, travel, and public work functions incurred by shore stations, including support to nonappropriated fund activities. Some claimants are authorized to report station operations costs under other BCCs, such as MA ("Education and Training, Health Care"), which includes the operation of training service schools and specific medical, dental, and health care administrative facilities and centrally managed training courses or W2 ("Field Headquarters and Activities"), which provides funds for the operation and maintenance of the district commandants and field activities under the cognizance of the Chief of Naval Operations.

Although base communications is not a line item in the proposed OSD-level BOS definition, base communications data are input into the NCIS/FYDP and NARM/FLAIL using BCCs JM, "Base Operations Communications," T2, "Base Communications," and WL, "Administrative Base Communications." T2 is the most comprehensive BCC since it includes resources at telecommunications centers supporting a base complex and base telephones, industrial security networks, paging networks, crash networks, and other

base communication networks. It includes such systems as walkie-talkies, two-way radios, and internal communications sys systems. These three unique base operations communications BCCs make it feasible to enter communications as a single subcategory under the basic Base Operations category in the OSD-LRA if desired.

Data for Installation Supply, Transportation, Maintenance and Procurement Services can be subtracted from the station operations BCCs (F3, MA, and W2) at the claimant level as these elements are input into the BCCs by the claimants. Unique BCCs could be developed for supply, transportation, maintenance, procurement, base command, administration, personnel support, and whatever other subcategories were desired. Then those BCCs that should be included with Base Operations could be listed there and the others placed in the OSD-LRA structure as required. OSD is currently developing a common BOS definition for all of the military services, and upon its approval the LRA will be made consistent with it.

# Appendix B

## NAVY BUDGET CLASSIFICATION CODES

## NAVY BUDGET CLASSIFICATION CODES

| Code | Budget Classification |
|---|---|
| A1 | Strategic System Technical Support |
| A2 | FBM Control System and Communications |
| A3 | Missile and Space Defense |
| A4 | Space Surveillance System Communications |
| A5 | Command Fleet Operation Control Centers |
| A6 | TRIDENT, Undersea Long Range Missile System (ULMS) |
| B1 | Aircraft Operations |
| BA | Flight Operations |
| BB | Aviation Maintenance |
| C1 | Flight Operations Support |
| CA | Aviation Consolidated Allowance List (AVCAL) |
| CB | Aircraft Outfitting |
| CC | Air Temporary Additional Duty |
| CD | Air Staffs |
| CE | Other Flights Operations Support |
| CG | Drone Aircraft |
| D1 | Ship Operations |
| DA | Fuel and Utilities |
| DC | Supplies and Equipage |
| DD | Other Ship Operations Support |
| DE | Military Sealift Command (MSC) Leaseback/Charter |
| E1 | Fleet Support Programs |
| EA | Command and Staff |
| EB | Fleet Temporary Additional Duty |
| EC | Construction Battalions |
| ED | Special Combat Support Forces |
| E2 | Ship Intermediate Maintenance |
| F1 | Regular Ship Overhaul |
| F2 | Non-Scheduled Ship Repairs (Restricted Availability/ Technical Availability) |
| F3 | Station Operations |
| F4 | Maintenance of Real Property (MRP) |
| FA | Maintenance and Repair of Real Property, Functional Category "M" |
| FB | Minor Construction, Functional Category "R" |

| | |
|---|---|
| F5 | North Atlantic Treaty Organization |
| F6 | Command |
| F7 | Unified Command/Staff |
| F8 | Undersea Surveillance System |
| F9 | Joint Chiefs of Staff Directed and Coordinated Exercises |
| FØ | Remote Sensor Support |
| G1 | Consolidated Cryptologic Programs and Communications Security (COMSEC) |
| GA | Cryptologic Activities |
| GB | Cryptologic Communications |
| GC | COMSEC |
| H1 | General Defense Intelligence Programs |
| HA | Fleet Intelligence Tactical Support |
| HB | Human Intelligence (HUMINT) |
| HC | Technical Sensor Collection |
| HD | Imagery Intelligence |
| HE | Electronic Intelligence (ELINT) Center |
| HF | Intelligence Production Activities |
| HG | Scientific and Technical Intelligence |
| HJ | Counterintelligence and Investigative Activities |
| HK | Intelligence Data Handling System (IDHS) |
| HL | Intelligence Management and Support |
| HM | Defense Special Security System |
| HN | Intelligence Communications |
| HP | Intelligence Training |
| J1 | Communications and Other Intelligence Programs |
| JA | Satellite Communications |
| JB | Naval Communications |
| JC | Naval Communications (DCS) |
| JF | Autodin Switch Center Operations |
| JG | Autovon Switch Center Operations |
| JH | Leased Communications (Non-DCS) |
| JJ | Leased Communications (DCS) |
| JK | Communications Training |
| JL | Weather Service--COMM Support |
| JM | Base Operations--COMM |
| JN | DoD Computer Institute |
| J2 | Oceanography |
| J3 | Weather Service |
| J4 | Mapping, Charting, and Geodesy |
| L1 | Personnel Support |
| LA | Recruiting Activities |
| LB | Personnel Support |
| LD | Human Goals Program |
| LE | Advertising Activities |

| | | |
|---|---|---|
| M1 | | Medical Support |
| | MA | Education and Training, Health Care |
| | MB | Other Health Acquisition Programs |
| | MC | Care in Defense Facilities |
| | MD | Medical Care in Nonservice Facilities |
| | ME | Other Health Activities |
| | MF | Armed Forces Health Professions Scholarship Program |
| M2 | | Mission, Training/Education |
| N1 | | Aircraft Rework and Maintenance (Active and Reserve Forces) |
| | NA | Airframes--In-House |
| | NB | Airframes--Commercial |
| | NC | Engines--In-House |
| | ND | Engines--Commercial |
| | NE | Components--In-House |
| | NF | Components--Commercial |
| | NG | Other Supporting Programs--In-House |
| | NH | Other Supporting Programs--Commercial |
| P1 | | Maintenance Support |
| | PA | Air-Launched Weapons Rework and Maintenance |
| | PB | Catapult and Arresting Gear |
| | PC | Test Equipment Maintenance and Calibration |
| | PD | Contract and In-House Engineering Services |
| | PE | Other NAVAIR Maintenance Support Programs |
| | PF | Conventional Ordnance Rework and Maintenance |
| | PG | Surface Missile Systems Rework and Maintenance |
| | PH | Anti-Submarine Warfare (ASW) Maintenance Support |
| | PJ | Component Repair |
| | PK | Refit and Restoration of Material |
| | PL | Planning Engineering Repairs and Alterations (PERA) |
| | PM | Other NAVSEA Maintenance Support |
| | PN | Overhaul of Electronic Equipment |
| | PP | Electronic Test Equipment Maintenance |
| | PR | Other NAVELEX Repair and Maintenance |
| | PS | Public Works Center |
| | PT | Fleet Maintenance Support |
| | PU | Fleet Modernization Program (FMP) |
| Q1 | | Inactive Maintenance Facilities |
| | QA | Ship Inactivations |
| | QB | Other Ship Inactivation Support |
| | QC | Contingency Reserve Aircraft |
| | QD | Industrial Preparedness |
| R1 | | Logistics Support |
| | RA | Employee Compensation Fund |
| | RB | Field Operations |
| | RC | Sustained Engineering |
| | RD | Other NavAir Engineering and Support Services |
| | RE | ASW Logistics Support |

| | |
|---|---|
| RF | ASW Technical Support |
| RG | NAVSEA Logistics Support |
| RJ | Military Support at NIF Activities |
| RK | Nuclear Core Reprocessing and Technical Support |
| RL | Deep Submergence System Program (DSSP) |
| RM | Logistics Training Support |
| RN | Salvage and Diving Support |
| RP | Other NAVSEA Logistics Support |
| RR | Electronics Engineering and Technical Support |
| RS | Installation of Electronics Equipment |
| RT | Facilities Engineering Field Division |
| RU | Construction Battalion Support |
| RV | Public Works Center Support |
| RW | Collateral Facilities Equipment |
| RX | Pollution Abatement |
| RY | Facilities Support |
| RZ | Naval Ship Engineering Center Operations |
| R2 | Atlantic Undersea Test and Evaluation Center (AUTEC) |
| R3 | Base Operations, U.S. Naval Academy |
| | |
| S1 | Supply Support Operations |
| SA | Supply Center Operations |
| SB | Supply Management Operations |
| SC | Procurement Operations |
| SD | Commissary Store Operations |
| SE | Receipt, Segregation, Stowage, and Issue (RSS&I) of Ammunition |
| S2 | Inspection and Contract Administration |
| | |
| T1 | Transportation and Terminal Service |
| TA | Transportation |
| TB | Terminal Service |
| T2 | Base Communications |
| | |
| W1 | Servicewide Support |
| WA | Navy-Wide Finance Activities |
| WB | Naval Audit Service |
| WC | Regional Office of Civilian Manpower Management |
| WD | Naval Petroleum Reserves, Field |
| WE | Office of General Counsel, Field |
| WF | Judge Advocate General, Field |
| WG | Naval Disability Evaluation Office |
| WH | Long-Term Civilian Training |
| WJ | Other Administrative Expenses |
| WK | Other Servicewide Support |
| WL | Base Communications, Administrative |
| W2 | Field Headquarters and Activities |
| W3 | Departmental Headquarters |
| W4 | Other Support Activities |
| W5 | Public Affairs Office |
| W6 | Audio Visual Support |

| | |
|---|---|
| W7 | GSA Lease of Buildings |
| W8 | Vice President Quarters |
| Y1 | Support of Allies |
| YA | Ship/Boats/Service Craft Support |
| YB | Ship Overhaul, Out of Country |
| YC | Ship Overhaul, In Country |
| YD | Contractual Assistance |
| YE | Material and Training Support, Thailand |
| YF | Commander Naval Forces, Vietnam |
| YH | Other Military Assistance Programs |
| Y2 | Classified Projects |
| Y3 | International Military Headquarters |
| Y4 | MAAG's Missions and Military Assistance Group |